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VALIDATION OF PATIENT SATISFACTION
WITH NURSING CARE

BY

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A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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Date Sept 9, 1981

To my parents, Ethel and Bert Thorpe,

for their understanding, encouragement,

and love.

ABSTRACT

The construct satisfaction does not appear to have been well formulated and/or measured in health care research, due perhaps to the complex nature of the construct and the failure of investigators to attend to the psychometric principles of research. The purpose in this investigation was to develop and validate a questionnaire for measuring patient satisfaction with nursing care restricted to the area of patient rights. This restriction was imposed since the topic of patient rights readily lends itself to statements about an expected relationship between the nurse and the patient and, further, it seems logical that patients are suitably "qualified" to comment about and make demands on that defined relationship. To establish the degree of validity, face, content, and some degree of construct validity were assessed.

Two questionnaires (scales) were developed for this investigation such that while the content of the items was identical (patient rights), the response alternatives differed (percentages versus words). Of the 20 items in each scale, 10 were randomly assigned to be stated negatively while the remaining 10 items were stated positively. Each respondent was randomly assigned to receive either scale one or scale two.

Three hundred patients were non-randomly selected and mailed one of the scales. Each of the 300 subjects had been recently discharged from a medical, surgical, or obstetrical ward in one of three large teaching hospitals (also non-randomly selected). The response rate to the mail survey was 61 per cent.

Various statistical models were used to analyze the data by scale (one or two), format (positively- or negatively-stated items), and type of respondent (non-health care worker, health care worker, or nurse), including Cronbach's (1951) alpha coefficient, factor analysis, and analysis of variance. When null hypothesis testing was done the level of significance was set at a two-tailed probability of .05. All analyses substantially supported scale two, and in particular the positively-stated items from that scale, as the most valid measure of the construct under investigation. Results indicated that respondents had difficulties responding to the percentage alternatives of scale one and the negatively-stated items generally.

Recommendations focus primarily on measures deemed important to the enhancement of any replication endeavours and the potential use that a valid measurement tool for measuring patient satisfaction has on nursing practice.

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CHAPTER I

INTRODUCTION

STATEMENT AND IMPORTANCE OF PROBLEM

A primary problem associated with research in the health field is the lack of a sound methodological basis for the majority of studies (Ware, Davies-Avery, & Stewart, 1978). Although much has been written, and formally documented, about the specific validational processes, little has been done to determine the "accuracy" of various tools in measuring what they purport to measure. Only when investigators adhere to the principles of sound research will valid tools and results be forthcoming.

This failure to attend to the principles of sound research is apparent in the literature on patient satisfaction. Frequently, the measurement of patient satisfaction with nursing care, medical care, and/or health care services has been derived from the use of tools of unknown validity. Before any trust can be ascribed to the results and hence, the relationship between variables of research endeavours, it is crucial to develop measurement devices of known reliability and validity.

Despite the increased interest in obtaining the patient's perspective as a means of evaluating the care provided by health professionals, many difficulties regarding measurement techniques are yet to be resolved. Much criticism has been voiced by health professionals regarding the patient's "technical competence" to assess nursing care, medical care, and/or health care services. Indeed, this concern is central to the determination of the validity of the measurement device. Attempts to avoid this criticism have led to the development of more indirect measures of patient satisfaction with health care services that, in themselves, created other issues of concern. A few attempts have been undertaken (e.g., Abdellah & Levine, 1958; Risser, 1975) to develop and validate questionnaires restricted to nursing services that are considered within the realm of a patient's competence to evaluate.

The rationale underlying this investigation is that there is a distinct need to develop reliable and valid measurement devices through sound research methodology in exploring all aspects of nursing care. However, if such tools are to be utilized in evaluating and modifying nursing practice, it seems reasonable to start this production of valid tools by developing those that deal with patient rights. Since the topic of patient rights readily lends itself to statements about an expected relationship between the nurse and the patient, it seems logical that patients are entitled to comment about and make demands on the defined relationship. Further, if a patient's rights are maintained, it is anticipated that she/he would be satisfied with the nursing care provided. Thus, it was deemed reasonable to conclude that appropriate linkages between patient rights and the patient's legitimacy as an evaluator, and, between patient rights and patient satisfaction with nursing care existed. Following the development of valid tools pertaining to patient rights and nursing care, research activities related to validation of other topical areas may logically evolve.

The purpose in this investigation was to develop a questionnaire for measuring patient satisfaction with nursing care restricted to the area of patient rights and to establish some initial construct validity estimates for it. The models chosen for estimating construct validity were factor analyses and mean differences (Cronbach & Meehl, 1955). The content of the items was restricted to those nursing activities on and for which patients have an unquestionable right to comment and make demands. This restriction was imposed to increase the likelihood the nursing profession might use the tool, if valid, to seek patient feedback regarding patient satisfaction with nursing care.

LIMITATIONS AND ASSUMPTIONS

As the reader will note in Chapter II, the construct "satisfaction" has not been well-formulated and/or measured in health care research. For the purposes in this investigation, the assessment of patient satisfaction with nursing care was limited to specific nursing care measures which a patient could reasonably be expected to encounter while hospitalized. No attempt was made to develop a universally acceptable construct of satisfaction with all nursing care.

Several other limitations were present in the design of this investigation; foremost, the lack of suitable criterion measures precluded the use of a multitrait-multimethod model (Campbell & Fiske, 1959, pp. 81-105) for establishing construct validity. Consequently, the validational processes were restricted to the assessment of one trait (satisfaction) by one method (a paper-and-pencil mail questionnaire). The use of one method compounds identifying variance attributed to the trait or the method. (As will be discussed in

Chapter III, pp. 29-46, attempts were made to incorporate "as much diversity as possible in terms of data-sources and classification processes" [Campbell et al., 1959, pp. 102-103] in order to somewhat compensate for this shortcoming of using one method.)

Other limitations pertained to the respondents: individuals selected to participate in this investigation were patients 18 years of age or older who had been discharged from the medical, surgical, and obstetrical wards of three large hospitals over a restricted period of time. Since patients, hospitals, wards, and time periods were not randomly selected the findings are not necessarily generalizable beyond this group of individuals.

Furthermore, the individuals who acted as face and content validators were not randomly selected. Again, the lack of random selection limited the generalizability of the reported face and content validity estimates.

Though an attempt was made to select a sample size large enough to establish power for medium effect sizes at .80, low response rates reduced the power for certain analyses. Of course, for whatever power that was established, one must recognize again the constraints that lack of randomization imposes on the reported power levels, as well as the unknown representativeness of respondents.

Accordingly, several assumptions have to be made regarding the representativeness of the various groups if generalizations are to be made: individuals selected to participate were characteristic of the population of patients on the medical, surgical, and obstetrical wards of at least the three institutions studied; face and content validators were representative of their respective groups; and, nonrespondents were not atypical thus enabling respondents' answers to be generalizable. Finally, it must be assumed that a discharged patient's opinion is indeed the same as the opinion of one receiving care during hospitalization.

All findings of this investigation are to be considered in view of these stated limitations and assumptions.

DEFINITION OF TERMS

Several terms that may be peculiar to this investigation were defined as follows:

Patient: any adult individual, over 18 years of age, who had been discharged from a medical, surgical, or obstetrical ward.

Non-health care worker (NHCW): any adult individual whose occupation pertains to any field of work outside the health care system, or, within the health care system, any occupation that does not entail providing direct patient care; for example, secretary, labourer, or lawyer (cf. Appendix A).

Health care worker (HCW): any adult individual, excluding nurses, whose occupation entails working directly with and/or for patients, generally in a hospital setting; for example, physician, Registered Nursing Assistant, physiotherapist, or x-ray technician (cf. Appendix A).

Nurse: any adult individual who has successfully completed an approved nursing education program and the qualifying nurse registration examinations entitling her/him to use the designation "Registered Nurse" and for registration in the professional association (cf. Appendix A).

Satisfaction: a relative sense of well-being, contentment, or pleasure with regard to an individual's subjective experience which may be intrinsically or extrinsically stimulated.

Dissatisfaction: the opposite of satisfaction, that is, displeasure or discontentment which may also be stimulated intrinsically or extrinsically.

Scale: a measurement technique designed to reflect the attribute or construct under study. For purposes in this investigation, scale referred to each of two 20-item questionnaires designed to measure patient satisfaction with nursing care relative to patient rights.

Format: the wording of the item specific to the positive and negative nature of the statement.

Group: the three occupational categories of the respondents (NHCW, HCW, and nurse).

OVERVIEW OF THE THESIS

In the following chapter a review of the literature relevant to patient satisfaction, patient rights, and measurement theory is presented. Chapter III comprises a description of the specific methodology and data analyses used in this investigation, while the obtained results accompanied by a pertinent discussion are delineated in Chapter IV. The final chapter contains a summary of and recommendations arising from the investigation.

CHAPTER II

SOME PERTINENT LITERATURE

INTRODUCTION

The purposes in presenting this literature review are: (a) to provide a brief overview of the conceptualization of the construct "satisfaction" and to review how some empirical researchers attempted to measure patient satisfaction with nursing care, medical care, and/or health care services, (b) to outline those factors identified in the literature as belonging to the area of patient rights and, finally, (c) to outline some psychometric principles of research methodology related to measurement validity.

Several reasons are offered for reviewing these aspects of the literature. The focus of the first objective pertains to the present theoretical position and definition of satisfaction. The construct does not appear to have been well formulated and/or measured in health care research, due perhaps to both the complex nature of the construct and a lack of sound research methodology. The lack of theoretical development for patient satisfaction may be at least partially explained as a consequence of the ongoing argument of whether or not patient opinion is important if health care at least meets minimal requirements. Accordingly, the review of the literature base on patient rights was essential, as well as the literature related to those theoretical constraints of measurement validity that need to be met if a measured attribute is to be considered trustworthy.

CONCEPTUALIZATION AND INVESTIGATION OF SATISFACTION

It would appear that the conceptualization of satisfaction is both complex and problematic. Early research efforts were directed to delineating a relationship between specific individual attributes and degree of happiness rather than testing a psychological theory of the construct (Hartmann, 1934; Sailer, 1931; Watson, 1930).

Considerable attention has been focussed on studying various aspects of job satisfaction (e.g., Herzberg, 1966; Hoppock, 1935; Locke, 1969. Roethlisberger & Dickson, 1939). In particular, Herzberg, Mausner, and Snyderman (1959) determined that various aspects of the job, intrinsic to the work itself (e.g., responsibility, recognition), led to job satisfaction whereas other elements, extrinsic to work (e.g., wages, supervision, policies), led to job dissatisfaction. Other researchers, Maslow (1965) and McGregor (1960), approached job satisfaction within the framework of "needs"--meaning that an individual seeks to satisfy some unfulfilled need through work. Despite the proliferation of this type of research, a fundamental question remains unanswered: "What is it [satisfaction]?" (Locke, 1969, p. 334).

Conceptualizing satisfaction appears to have been, and remains, a difficult task for researchers in all fields of study. Indeed, researchers in the health care field(s) seldom offered a definition of the term in their work on patient satisfaction with nursing care, medical care, and/or health care services. A few notable exceptions include: Gerst, Rogson, and Hetherington (1969), Linn (1975), Pope (1978), Tessler and Mechanic (1975), and

Wriglesworth and Williams (1975). However they, along with Locker and Dunt (1978) and Ware, Davies-Avery, and Stewart (1978) in two excellent reviews of the literature, noted a conspicuous lack of definition of satisfaction, and when included, a general lack of consistency in labelling the concept.

Despite an interest in obtaining the patient's perspective as a means of evaluating the care provided by health professionals, many difficulties are yet to be resolved. In addition to the issues of the diversity of settings, populations, techniques of measurement, and objects of satisfaction (Lebow, 1974; Linn, 1975), some authors, such as Ware et al. (1978) and Locker et al. (1978), stated the primary concern to be the lack of a sound methodological basis in the majority of the reported studies.

A major methodological issue of concern is with regard to the tool(s) developed and studied in assessing patient satisfaction. In assessing patient satisfaction with nursing care, medical care, and/or health care services, the majority of researchers have failed to determine the "accuracy" of the tool to measure what it purports to measure. Examples of such studies and/or researchers include: Apostle and Oder (1967), Patient attitude survey (1979), Pollert (1971), and Raphael (1967). The essential, minimal criteria when fielding a newly developed tool necessitate provision of data on the reliability and validity of the measurement device (American Psychological Association [APA], 1974). Only when the degree and type of reliability and validity are known can the reader attempt to utilize that tool correctly. Moreover, this information is vital to the further development, refinement, and application of tools in the same, and related, areas of study. A few research teams have dealt with some of these psychometric aspects: Hulka, Zyzanski, Cassel, and Thompson (1970), Ware and Snyder (1975), and Zyzanski, Hulka, and Cassel (1974).

As yet not widely accepted, but nevertheless of substantial importance, is the reporting of the "power" (probability of rejecting a false null hypothesis) for various "effect sizes" (degree to which phenomenon exists) of empirical investigations along with the traditional alpha level (Brewer, 1972; Cohen, 1977). This concept is particularly important when the technique for establishing construct validity is based on measures of relationships and differences (as suggested by Cronbach and Meehl [1955]).

Associated with the paucity of a sound methodological basis for the majority of studies is the persistent lack of a standard approach to the measurement of patient satisfaction (Locker et al., 1978, p. 286). Lebow (1974) and Linn (1975) suggested several issues that have hindered the development of a standardized approach to assessing patient satisfaction. First, the source of populations studied have varied. Researchers have investigated various in-patient groups within hospitals (Nehring & Geach, 1973; Geertsen, Ford & Castle, 1976; Kirchhoff, 1976), clinic patients (Francis, Korsch, & Morris, 1969; Korsch, Gozzi, & Francis, 1968) and the community at large (Hulka, Kupper, Daly, Cassel, & Schoen, 1975; Koos, 1955).

Closely linked to the different populations studied, yet distinct, are the diverse settings in which health care services were provided (Lebow, 1974, p. 328). In some studies, the foci were on the characteristics of the setting--those particular attributes that differentiate one from another (Houston & Pasanen, 1972; Noyes, Levy, Chase, & Udry, 1974; Pollert, 1971; Tessler et al., 1975). The dissimilarities among populations and settings appear to greatly impede construction of a universally adaptable patient satisfaction measurement tool.

The third issue concerns the number of techniques used to measure satisfaction with health care (Linn, 1975, p. 533). Although multi-item questionnaires are known to provide reasonable score variability (and thereby allow opportunity to demonstrate statistical reliability and validity), Ware et al. (1978, p. 6) determined that the majority of researchers employed single-item measures (e.g., Henley & Davis, 1967, p. 74). Locker and Dunt (1978, p. 286) illustrated the discrepancy between subjects' responses to open- (allows freedom of response) and closed-ended (elicits a "forced-choice" to alternatives) items without providing evidence to suggest the validity of one form of inquiry over the other.

The fourth issue discussed by Linn (1975, p. 533) pertains to the objects of satisfaction evaluated. To estimate patient satisfaction with medical care, researchers have focussed on a particular visit to the doctor (Kisch & Reeder, 1969; Korsch et al., 1968); with health care services, attention has been centered on prepaid group practice/health care insurance plans (Donabedian, 1969; Gerst et al., 1969); with nursing care, patients have responded to inquiries about the concepts of team versus primary nursing (Daeffler, 1975) or, more specifically, about the importance of selected nursing activities (White, 1972). Despite this diversity few researchers have provided concrete evidence that an adequate assessment of the construct satisfaction was developed.

The lack of a sound methodological basis, the complexity of the construct satisfaction and the limitations imposed by the four previously stated issues (taken singularly or in any combination), make it difficult, if not impossible, to meaningfully compare the numerous studies dealing with patient satisfaction. Work done by nurse researchers in this area does not necessarily resolve any of these constraints.

Of specific import in this investigation is the fact that nurse researchers generally have not dealt adequately with the psychometric considerations affirmed to be basic to sound research (APA, 1974, p. 25). The research done by Abdellah and Levine (1957a, 1957b, 1957c, 1957d, 1958) as well as Risser (1975), however, are distinct exceptions. The Abdellah et al. (1957b, p. 45) study was designed to elicit omissions of care in nursing and non-nursing events. Results of this study indicated that many patients reported dissatisfaction with certain nursing activities: 64 per cent of the patients expressed displeasure with the amount of information provided by nurses and 47 per cent were discontent regarding the speed with which nurses answered calls for assistance (Abdellah et al., 1957b, pp. 46-67). Focussing strictly upon nurses and nursing care, Risser (1975, p. 50) also found patients were least satisfied with the information exchanged between patient and nurse. Interestingly, the majority of patients indicated that the physician provided the most useful information in Pender's (1974) study while Wriglesworth and Williams (1975) found that patients stated nurses gave the most helpful information in a post-operative situation. Much support for this latter study can be found in recent articles by Clarke and Bayley (1972), Fournet (1974), and Powell and Winslow (1973).

By evaluating differing levels of "importance" between patients and staff in ranking various nursing activities White (1972) provided an indirect measure of patient satisfaction with nursing care. Patients were considerably more concerned than nurses about their personal hygiene and physical comfort (White, 1972, p. 11). In contrast to patients, nurses placed more emphasis upon the psychosocial aspects of care (White, 1972, p. 12). White (1972, p. 12) discovered both patients and nurses were in agreement regarding the importance of adhering to the physician's plan of care and to the unimportance of any activities depicting preparation for discharge. This latter finding is in contradiction to Linehan's (1966) finding with regard to patients. Considering the value given to patient education today, one must question if patients and nurses would continue to rate discharge teaching as unimportant.

On reflecting upon the differing views of patients and nurses about nursing care, one wonders how a nurse or any health care worker would respond to the care she/he received as a patient. According to Chaney (1975) and Miller and Blais (1965), nurses and health care workers (HCWs), as patients, voiced similar areas of dissatisfaction. Since nurses and HCWs are deemed to be "informed" regarding expected nursing care measures, it was anticipated that nurses and HCWs would in fact be more critical than non-health care workers (NHCWs) of the nursing care they received.

Of those studies in which a "overall satisfaction" rating was reported (often on the basis of one item), the results ranged from 67-100 per cent (Geertsen et al., 1976, p. 213; Pollert, 1971, p. 139; Raphael, 1967, p. 213). Much support for these findings can be found in research on patient satisfaction in the medical and health care services by Korsch et al. (1968, p. 859), Pope (1978, p. 301), and Tessler et al. (1975, p. 110). The stereotyped responses of high satisfaction were delineated although patients stated that they were indeed dissatisfied with certain aspects of the care they received. It is unfortunate that in using a general satisfaction rating many data are lost concerning specific instances of satisfaction and dissatisfaction.

It is worth noting a point in format that distinguishes the Risser (1975) study from the one done by Abdellah et al. (1957a). In the Abdellah et al. (1957b) study, 47 of the 50 items eliciting omissions of care in nursing and non-nursing events were stated negatively; three, indicating satisfaction with care, were stated positively. Subsequent to utilizing the Abdellah et al. (1957b) tool, Daeffler (1975, p. 25) criticized this format of the check list. In concurring with Daeffler's (1975) criticism, this investigator questions why a more even distribution of positively- and negatively-stated items was not selected as suggested by Oppenheim (1966, p. 117). In contrast to Abdellah et al. (1957b), Risser (1975) included roughly equal numbers of positively- and negatively-stated items in an attempt to avoid response set bias. When this strategy is incorporated into scale construction the probability of obtaining trustworthy results is enhanced as the individual, accustomed to responding in a characteristic fashion regardless of item content, cannot inadvertently bias the data in this haphazard manner (Polit

& Hungler, 1978, pp. 368-369). Although the content of the items determines what a test measures, it is the composite effect of both the content and form of the items that contributes to the final score (Cronbach, 1946, p. 475). In Cronbach's (1946, p. 484) words, "Response sets always lower the logical validity of a test...Response sets interfere with inferences from test data."

In summary, the construct satisfaction appears to remain complex despite numerous investigations of its structure and application. There is little doubt, however, this lack of progress may well be a function of research which has lacked methodological rigor and/or has failed to systematically delineate the confounding influence of numerous variables. Such factors as diverse populations, settings, measurement techniques or, more critically, the examination of satisfaction exclusively in terms of operationalizations rather than measuring the phenomenon as a non-operationalized construct appear to compound the difficult task of defining satisfaction in health care research.

Despite the lack of sound methodological inquiry, a common discovery of many studies is that patients have not been given information about their health status and nursing care measures. Indeed, patients have an unquestionable right to the very information that they have not received. The following section comprises a review of the factors identified in the literature as belonging in the area of patient rights.

PATIENT RIGHTS

The four articles of the "Consumer Rights in Health Care"

(Consumers' Association of Canada [CAC], 1974, p. 1) comprise the foundation upon which this thesis of patient satisfaction is built. Specifically, these articles include the right to be informed, the right to be respected, the right to participate, and the right to equal access to health care. (A copy of the CAC [1974] "Consumer Rights in Health Care" is provided in Appendix B.)

A comment about the available literature on patient rights is warranted prior to embarking upon a discussion of the four articles. In the United States, Pankratz and Pankratz (1974) investigated nurses' views regarding autonomy for themselves and their patients. Green (1978) replicated this study in a Canadian setting and the results of both studies are noteworthy. Those nurses who worked in administrative positions or in educational/community health settings and who had completed a university degree appeared to be more assertive regarding patient rights than those nurses without a university education and who worked as staff nurses in a hospital setting. Green (1978) concluded that the staff nurses were in need of role models and much support if they were to actively maintain patient rights within the hospital setting. If Green's (1978) findings can be generalized to other hospital settings, one wonders to what extent staff nurses are aware of patient rights in health care.

To the knowledge of this investigator, there has been no empirical work done on patient rights that considers the patient perspective. Possibly this lack can be explained in part by the relative recency of the proclamation of the "Consumer Rights in Health Care" (CAC, 1974). Further, one might question how well (if at all) this declaration of patient rights has been disseminated not only to the health care professionals but also to the patients (consumers). Storch (1977) discovered many consumers are totally unaware of their rights as patients within the institutional setting. A further elucidation may stem from the nature of the topic itself; that is, nurses, physicians and other health care administrators may consider patient rights too "sensitive" an area to be examined empirically. Whatever the explanation, this subject remains virtually unexplored.

Each of the four rights as outlined by the CAC (1974) will now be discussed individually. Issues relevant to nursing in particular will be considered.

Right to be Informed

The right to be informed entitles patients to specific knowledge concerning their health care status and health care service in general. In practice, however, this right does not ensure access to information. As Skipper (1965, p. 73) stated, "One of the most universal complaints of hospitalized patients in western society... is that they do not have enough communication with hospital functionaries." Both the nursing and medical literature are replete with support for this statement (e.g., Dodge, 1969, p. 503; Geertsen et al., 1976, p. 213; Houston et al., 1972, p. 72; Korsch et al., 1968, p. 861; White, 1973, p. 12).

With so many health disciplines participating in patient education endeavours, it is necessary to ask "Whose responsibility is patient education?" (Harper, 1976, p. 2; Lindeman, 1973, p. 515).

Harper (1976, p. 2) stated that patient education is too complex an undertaking for any one group of health care professionals to assume total responsibility. Johnson (1978, p. 5) advocated, "We must share information and collaboratively advance sound, successful patient education." Nurses, by virtue of their professional licence (Baden, 1972, p. 563), frequent interactions with patients (Lyons, 1977, p. 12), and awareness of the patient's diagnosis, treatment, and prognosis (Winslow, 1976, p. 213) have the potential to make significant contributions to patient education.

Distinct from the nurse's responsibility for patient education is the matter of "informed consent" (Rothman and Rothman, 1977, p. 8). Whereas the responsibility for providing sufficient, clear information on medical or surgical treatment rests solely with the physician, the onus remains with the nurse to be alert to any indications of misunderstanding on the part of the patient or of any desire to revoke a given consent (Rothman et al., 1977, p. 8). The nurse, of course, is accountable to the patient in providing appropriate explanations regarding nursing procedures.

In spite of the independent nature of many nursing activities in patient education endeavours, disparity between policy and practice persists (Storlie, 1973, p. 507). Nurses have reported numerous factors which create barriers to their patient education efforts (Pohl, 1965; Redman, 1976). For example, lack of preparation to teach (Winslow, 1976, p. 217), lack of knowledge (Jenny, 1978, p. 28), lack of nursing service support (del Bueno, 1978, p. 4), and patient's failure to ask for information (Winslow, 1976, p. 218) are commonly cited factors. Nurses need to overcome any barriers that prevent patients from gaining information about their health care status and/or health needs. Indeed, Christman (1967, pp. 17-21) outlined how nurses can assist the individual to learn the "patient role" and thus enhance the appropriate exchange of essential information. Withholding information from the patient may be detrimental to the patient's well-being as well as infringing upon the patient's rights.

Right to be Respected

"The average patient's overwhelming desire is to be treated humanly, with respect" (Bernhard, 1977, p. 41). It seems inconceivable that such a fundamental consideration for one's fellow man needs to be stated as a right. Yet, occasionally within the health care settings, respect for the patient's individuality is sadly lacking (Chaney, 1975, pp. 27-40). As Szasz (1974, p. 130) stated:

> It is not enough that we do a technically competent job of healing the patient's body; we must do an equally competent job of safeguarding his dignity and self-esteem. In proportion as we fail in this latter task, we destroy the practical value of our technical competence for the sick person.

The patient's right to have his privacy respected encompasses at least two dimensions--(a) the right to privacy with regard to care and treatment, and (b) the right to confidentiality of information shared between patient and health professional. Needless to say, some invasion of a patient's privacy is necessary if the nurse is to assist the patient with personal care. The nurse, however, has the responsibility of maintaining as much privacy as possible and of avoiding any embarrassment to the patient during the process of providing care. Also, any information divulged by the patient to the nurse should be shared only with those individuals who have a right to know it in order to provide or direct care. Furthermore, respect for a patient's right to privacy dictates that this information be treated as confidential.

The right to be respected as the individual with the major responsibility for her/his own health care extends to the patient's right to self-determinism. Whether or not the patient deliberates about participating in treatment or research, "the crux of the issue is the right of subjects to be adequately informed..., to have their privacy respected, and to be protected from undue risk to either their physical or emotional well-being" (Downs, 1979, p. 131). Under such circumstances, it is anticipated that a patient can make an "informed" judgment. According to the American Nurses Association Guidelines, "Each practitioner of nursing has an obligation to endorse and support self-determinism as a moral and legal right of the individual" (American Nurses Association, 1975, p. 2).

Right to Participate

In any nurse-patient interaction, there is a certain element of dependency of the patient upon the nurse. Nonetheless, the trend is to move away from the totally passive, dependent patient role to one in which the patient assumes an active, responsible position. Orem (1971) described a self-care model for nursing practice that emphasizes the need for the patient to participate throughout the nurse-patient interaction. In a recent statement on the standards of nursing practice, the essential participation of the patient during each phase of the nursing process, namely, the assessment, planning, implementation, and evaluation of care was clearly delineated (Boyle, Chornell, Dobbie-McMillan, Munroe, Sevalrud, & Sellers, 1980, pp. 1-20).

The CAC (1974) advocated consumer representation in the planning and evaluating of the system of health services. Health professionals have voiced much opposition to this right (e.g., Gross, 1967, p. 41). One crucial point in this regard is that discrepancies persist between the parameters considered salient to the quality of care by the consumer (patient) and by the provider of health care (Kelman, 1976, p. 438). As a solution, Kramer (1973, pp. 577-578) suggested that "Health professionals must be taught to value the participation of the consumer [and] must recognize their responsibility to help him [the consumer] participate in his own care."

Right to Equal Access

There appears to be little mention of the patient's right to equal access to health care services in the literature. However, the right to non-discriminatory care is widely known and accepted, partially as a consequence of the "rights" movements in general. The CAC (1974, p. 1) also affirmed a "right to prompt response in emergencies." While this aspect of equal access to health care may be less known, patients within a hospital setting do expect prompt response to their call for assistance (e.g., Abdellah et al., 1957b, p. 46).

In summary, the major facets of patient rights have been described, namely, the right to be informed, to be respected, to participate in decision making, and to equal access to health care.

There appears to be a distinct lack of empirical inquiry into the area of patient rights as a source of patient satisfaction with nursing care. In keeping with the relatively small literature base on patient rights, it seems that information concerning patient rights has been poorly disseminated to health care workers and non-health care workers alike.

Patient satisfaction with nursing care relative to the patient rights outlined in this literature review was the focus of the scales developed for this investigation. As mentioned throughout this chapter, few researchers have attended to the determination of the "accuracy" (validity) of their tool to measure what it purports to measure. Consequently, the assessment of both reliability and validity of the scales developed for this investigation was considered a primary focus of this investigator. Measurement theory, pertaining to the psychometric principles of sound methodological research, will now be discussed.

MEASUREMENT THEORY

Reliability

One interpretation of reliability especially relevant to an investigation of a common construct (e.g., satisfaction) refers to the internal consistency or homogeneity of a measurement (Cronbach, 1951, pp. 132-167). An appropriate statistical model used to estimate this form of reliability is Cronbach's (1951) alpha. The nature and use of this model has been thoroughly described elsewhere (Cronbach, Rajaratnam, & Gleser, 1963; Cureton, 1958). In that the accuracy (validity) of a measurement is sufficient, the emphasis of this part of the literature review will be placed upon the review of the concept of measurement validity.

Validity

Anastasi (1964, p. 77) expressed the essence of measurement validity in these comments: "A test is valid if it measures all of and only what the examiner wishes to measure. A test score is valid to the extent that it is useful for a given purpose." It is not possible to assess validity absolutely, but rather, validity is determined with regard to the degree to which a measurement is more or less valid (Ebel, 1965, p. 392). Furthermore, four commonly-described types of validity are utilized for inferential interpretation: namely, "the criterion-related validities (predictive and concurrent); content validity; and construct validity" (APA, 1974, p. 26). These models will be discussed in turn, beginning with face validity, an initial and fundamental step in item development.

Face Validity.

Face validity is a reflection of the apparent reasonableness and relevance of a particular measurement from the perspective of potential test subjects or users (Cronbach, 1970, p. 183). While Mosier (1947, pp. 207-218) cautioned researchers regarding the ambiguous interpretations and conclusions inherent in the term "face validity," he acknowledged:

> In the interests of the acceptability of the test to those most intimately concerned with its use, it is highly desirable that a test possess not only statistical validity, but also, as an added attribute, the appearance of practicality. (p. 218)

It would appear from the lack of literature dealing with this topic that the term has lost a great deal of its former popularity (Anastasi, 1964; APA, 1974; Mehrens & Lehmann, 1978). Still, it is the vital role of the *concept* of face validity, not the *term*, that ought not be underestimated in initial validational procedures.

Content Validity.

Content validity has received much attention in the literature since Loevinger (1957) elucidated the concept. Kerlinger (1973, p. 458) stated:

> Content validity is the *representativeness* or *sampling adequacy*--the substance, the matter, the topics--of a measuring instrument. *Content validation* is guided by the question: is the substance or content of this measure representative of the content or the universe of content of the property being measured?

The estimate of content validity rests upon the *judgment* of individuals considered to be "experts" in the particular area of content (cf. Ebel, 1956, pp. 92-102 for a thorough elucidation of the steps in the establishment of content validity). The judgmental nature of content validity is apparent as each item is "weighed for its presumed representativeness of the universe...[and] judged for its presumed relevance to the property being measured" (Kerlinger, 1973, p. 459). Criteria are also provided for making judgments about the retention or exclusion of items as well as for assessing the directions to be given to respondents. *A priori* to submitting the tool to experts for criticism, the degree of minimal agreement is established (Hazlett, 1975, pp. 703-704) since it is possible to express the inter-judge agreement numerically as a percentage. Ebel (1979, p. 304) considers content validity to be "the only basic foundation for any kind of validity." Concurrent, predictive and construct validity depend directly upon content validity such that any other form of statistical validity, rather than offering an alternative to the subjective nature of content validity, is of necessity an extension of it (Ebel, 1956, p. 96). Thus, the vital role of content validation in developing a new measurement device appears evident.

Criterion-related Validity: Concurrent and Predictive.

Two measures of validity, concurrent and predictive validity, are estimated empirically. It is important to distinguish between these two criterion-related validities. According to the APA (1974, p. 26):

> Criterion-related validities apply when one wishes to infer from a test score an individual's most probable standing on some other variable called a criterion. Statements of predictive validity indicate the extent to which an individual's future level on the criterion can be predicted from a knowledge of prior test performances; statements of concurrent validity indicate the extent to which the test may be used to estimate an individual's present standing on the criterion.

The distinction between concurrent and predictive validity, then, is one of time.

A "good" criterion measure is one that is relevant, reliable, and free from bias. The degree of validity is determined by the extent to which a predicted relationship is demonstrated in the study findings and the relationship is usually expressed by a correlation coefficient (Mehrens et al., 1978, pp. 112-114).

The dearth of appropriate criteria to estimate concurrent validity is evident from the earlier discussion on patient satisfaction. Consequently a more indirect means of assessing concurrent validity is needed.

Construct Validity.

The proponents of the term "construct validity" defined a construct as "some postulated attribute of people, assumed to be reflected in test performance" (Cronbach & Meehl, 1955, p. 247). It is this construct, rather than the measurement device, that is the focus of construct validational processes. The degree of construct validity established is directly related to the extent to which the construct(s) proposed by theory is/are reflected in the empirical findings, not so much in terms of any specific operationalized behaviours but the commonalities of many behaviors presumably resulting from a single non-operationalized force best described theoretically. In this way construct validity is tied to a nomological network in that both the test and the theory are supported or refuted simultaneously (Mehrens et al., 1978, p. 114).

Factor analysis is one of several statistical techniques of construct validation described by Cronbach et al. (1955, pp. 251-254, 267). This method permits delineation of "the number of factors at work in a situation, the nature of the factors, their degree of interaction, and the magnitude of their influence" (Cattell, 1952, pp. 20-21). Since the construct of satisfaction remains ill-defined, factor analysis is an appropriate initial statistical tool to utilize in examining related variables. A necessary, though insufficient, technique of assessing construct validity is that of testing the expectation that two groups will differ (Cronbach et al., 1955, p. 251). This type of construct validation is based upon the researcher's understanding of the construct and is subject to direct evaluation. But, Campbell and Fiske (1959, pp. 100, 104) have noted that sufficiency of construct validation cannot be presumed unless various independent constructs and methods ("at least two traits, each measured by at least two methods") were used to obtain the data that are factored.

SUMMARY OF CHAPTER

Although considerable interest has been expressed in assessing patient satisfaction with nursing care, medical care, and/or health care services, a valid tool for its measurement is yet to be developed. The issues inhibiting development of a valid tool were noted--the diversity of settings, populations, techniques of measurement and objects of satisfaction. Much of the nursing literature disclosed similar findings: patients are dissatisfied when they are not informed about various aspects of their care.

The CAC (1974) affirmed four rights for the consumers of health care: the right to be informed, the right to be respected, the right to participate, and the right to equal access to health care. To the knowledge of this investigator, there has been no empirical investigation encompassing both patient rights and patient satisfaction with nursing care.

Reliability and validity, the criteria in the development of any measurement tool, were discussed. Validity, the sufficient condition of the quality of a measurement, was reviewed, in particular, criterion-related (concurrent and predictive), face, content, and construct validities.

As noted in Chapter I, the purpose in this investigation was to develop and validate a questionnaire for measuring patient satisfaction with nursing care. The validational models and design used in this investigation are presented in Chapter III, to which the reader's attention is now directed.

CHAPTER III

METHODOLOGY

INTRODUCTION

The major purpose in this investigation was to determine the validity inherent in two scales designed to measure patient satisfaction with nursing care. Each scale was comprised of positively- and negatively-stated items using either five-point response alternatives of percentages or verbally described categories. As illustrated in Figure 1, face, content, and some degree of construct validity of the scales were assessed. A description of the methodology in establishing these validity estimates is presented in this chapter.

OVERVIEW OF DESIGN

Recognizing the limitations inherent in this investigation in not employing a multitrait-multimethod model to study the construct satisfaction, several design features were introduced to improve the rigor in this investigation of the construct. First, although a common method (questionnaire) was selected and only one construct was studied, two different scales were developed (cf. Figure 2). Whereas the content of the items was identical, the response alternatives differed (cf. Figure 2, steps 1.5 and 1.6). The two diverse response categories--percentages versus words--were employed to assess whether or not the two were appropriate and equivalent (i.e., interchangeable) indicators of degree of satisfaction. In responding to the percentage categories (scale

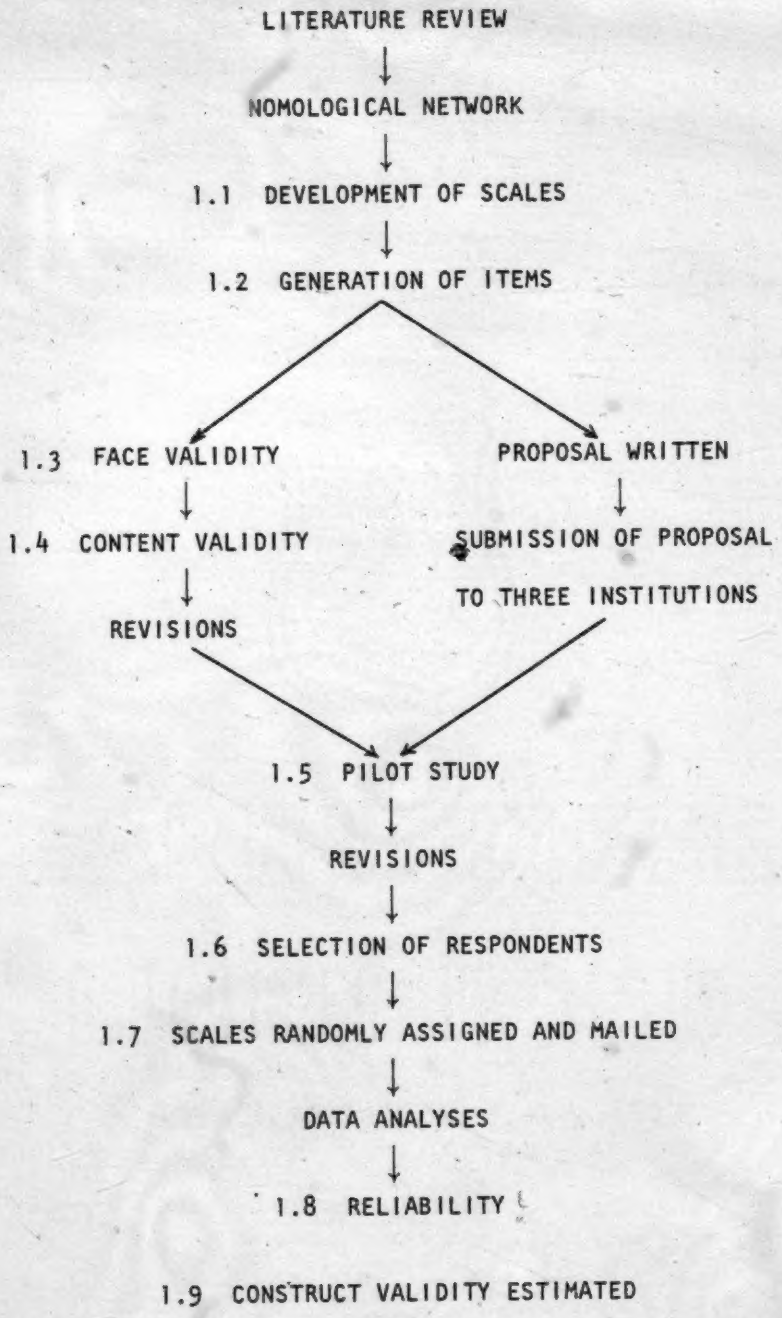
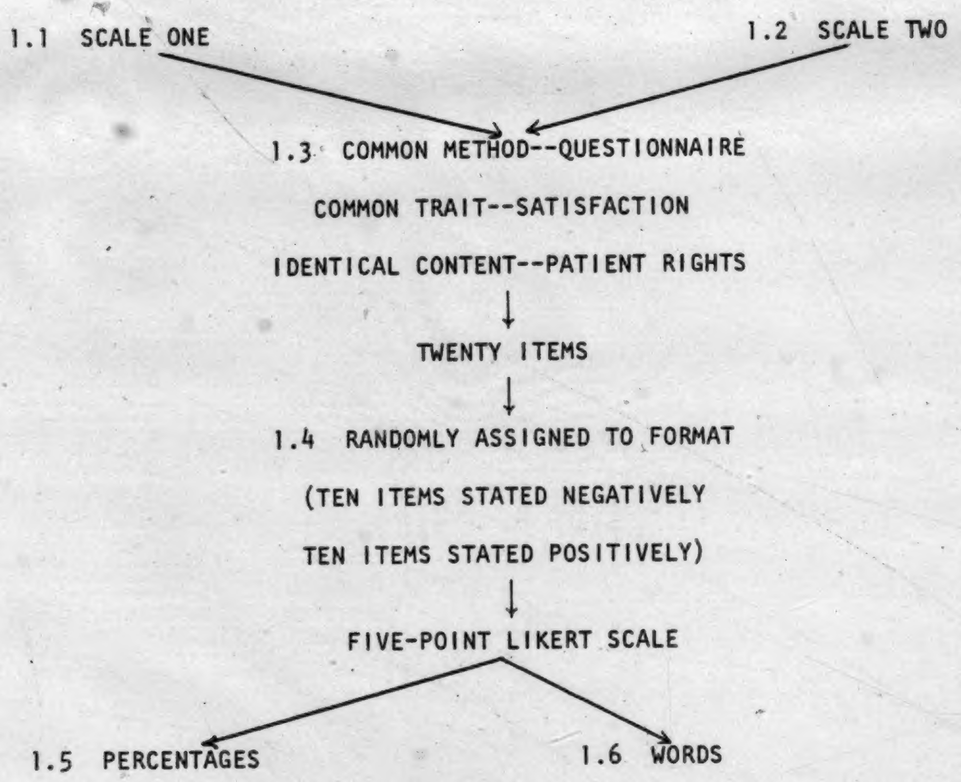

LITERATURE REVIEW
NOMOLOGICAL NETWORK
1.1 DEVELOPMENT OF SCALES
1.2 GENERATION OF ITEMS
1.3 FACE VALIDITY
PROPOSAL WRITTEN
1.4 CONTENT VALIDITY
SUBMISSION OF PROPOSAL TO THREE INSTITUTIONS
REVISIONS
1.5 PILOT STUDY
REVISIONS
1.6 SELECTION OF RESPONDENTS
1.7 SCALES RANDOMLY ASSIGNED AND MAILED
DATA ANALYSES
1.8 RELIABILITY
1.9 CONSTRUCT VALIDITY ESTIMATED

Figure 1: Development and Validation of Scales to Measure Patient Satisfaction With Nursing Care


1.1 SCALE ONE
1.2 SCALE TWO
1.3 COMMON METHOD--QUESTIONNAIRE
COMMON TRAIT--SATISFACTION
IDENTICAL CONTENT--PATIENT RIGHTS
TWENTY ITEMS
1.4 RANDOMLY ASSIGNED TO FORMAT
(TEN ITEMS STATED NEGATIVELY
TEN ITEMS STATED POSITIVELY)
FIVE-POINT LIKERT SCALE
1.5 PERCENTAGES
1.6 WORDS

BOTH NEGATIVE AND POSITIVE ITEMS	NEGATIVE ITEMS	POSITIVE ITEMS
0- 20%	VERY INCONSIDERATE	VERY LITTLE EFFORT
21- 40%	USUALLY INCONSIDERATE	LITTLE EFFORT
41- 60%	ABOUT AVERAGE CONSIDERATION	AVERAGE EFFORT
61- 80%	USUALLY CONSIDERATE	CONSIDERABLE EFFORT
81-100%	VERY CONSIDERATE	GREAT EFFORT

1.7 ITEMS RANDOMLY ASSIGNED TO ORDER OF PRESENTATION

Figure 2: Development of Scales

one), the respondent had to indicate a percentage range of nurses who did/did not perform a particular task (cf. Figure 2, step 1.5). The respondent was requested to specify the degree of "consideration" and "effort" expended by nurses in replying to the word categories of the second scale (cf. Figure 2, step 1.6). If the two scales were indeed interchangeable it was hypothesized the respondents would not have varying difficulty in replying to the particular scale to which they were randomly assigned. As a second design feature, the use of items expressed either negatively or positively (cf. Figure 2, step 1.4) was employed. Previous studies have indicated patients generally state moderate to high satisfaction with nursing care, medical care, and/or health care services even though evidence existed they were dissatisfied with certain aspects of their care. Since most items used in these studies were expressed in a positive format, one might hypothesize that bias was introduced. Accordingly, the negatively- and positively-stated items were introduced to determine if respondents could discriminate between the two formats and/or if any systematic influence of the positive/negative format existed. Third, the sample of respondents was selected from a population of patients discharged from a hospital setting and stratified according to occupational status; non-health care worker (NHCW), health care worker (HCW), and nurse. It was postulated that nurses and HCWs should be "better" judges of "expert" nursing care, more knowledgeable about patient rights and, therefore, more critical (i.e., dissatisfied) of nursing care received when they themselves were patients.

A discussion of the development of the scales--content, structure, similarities, and dissimilarities--follows (cf. Figure 1, step 1.1). A copy of both scale one and scale two is provided in Appendix C (photo-reduced by a factor of 74 per cent and presented on separate pages for purposes of the appendix format requirements).

GENERATION OF ITEMS

Content of Scales

The specific content area selected for this investigation of patient satisfaction with nursing care was patient rights. As affirmed by the Consumers' Association of Canada ([CAC], 1974) and discussed in the previous chapter, the four patient rights comprised the right to be informed, to be respected, to participate, and to equal access to health care (cf. Chapter II, pp. 15-22). These "rights" provided an area of inquiry restricted to factors exclusively under the influence of the nurse (from the patient's perspective) and about which patients have clear right to comment in regard to the quality of nursing service. The response categories were designed to elicit the "degree" to which patients were satisfied with their nursing care during a recent hospitalization and degree of satisfaction was assumed to be directly affected by the extent to which nurses maintained patient rights.

Structure Common to Both Scales

Based on the literature, 20 items considered by the investigator to be representative of the universe were generated (cf. Figure 1, step 1.2). Attempts were made to ensure each item had clarity of meaning, lacked ambiguity, and employed simple language and structure (Berdie & Anderson, 1974, pp. 36-48). Ten items were randomly assigned to be stated negatively while the remaining 10 items were stated positively (cf. Figure 2, step 1.4 and Appendix C, pp. 97-100). Whereas the general tendency is to randomly distribute the positive and negative items throughout a questionnaire to avoid response set (Edwards, 1970, p. 144), the structure of the items in this investigation necessitated grouping the 10 negatively-stated items together to promote ease of responding.

Each scale was reproduced on a single 8.5 by 11 inch letter size stationary utilizing both sides of the page (cf. Figure 1, step 1.1). It is important to note that the 10 negatively-stated items were placed together on the one side and the 10 positively-stated items were placed on the reverse side of the questionnaire; it was randomly determined that page one of each scale contained the negative items.

Three facts were emphasized in the directions provided with the questionnaire: the items referred to the nursing care received during a recent hospitalization, the importance of responding honestly to each item, and the anonymity of respondents. An example was provided for the 10 negatively-stated items as well as another example for the 10 positively-stated items. At the end of the questionnaire the respondent was asked to indicate whether or not she/he was a health care worker, and if so, was she/he a nurse. It was recognized that non-practising HCWs/nurses may have been confused in responding to this item regarding current occupational status. Additionally, space was provided inviting the respondent to make any comments or suggestions with regard to the nursing care and/or questionnaire. The respondent was thanked for her/his cooperation and encouraged to return the completed questionnaire promptly in the self-addressed, stamped envelope.

As previously noted, two separate scales were developed, each having identical content, order of items, and format (positively- or negatively-expressed items). Only the Likert choices differed. The essential differences of these scales are provided in the following sections.

Structure Unique to Scale One

The response alternatives in scale one comprised five percentage categories, in particular, 0-20%, 21-40%, 41-60%, 61-80%, and 81-100%. The respondent was requested to indicate the percentages of nurses for whom the item appeared to be either true or not true.

Accordingly, it was assumed if a patient thought a high percentage of nurses performed a specified task, then a high degree of satisfaction existed; conversely, if a high percentage of nurses did not perform a specified task, a high degree of dissatisfaction existed. To be consistent in selecting the appropriate percentage category for the negative and then the positive items the respondent had to alter her/his response pattern from one end of the percentage scale to the other. For example, if a negatively-stated item--"What percentage of the nurses with whom I came in contact did not protect my privacy?"--was not true for the majority of nurses, the category 0-20 per cent would be selected whereas, if a positively-stated item--"What percentage of the nurses with whom I came in contact did discuss my health needs?"--was true for the majority of nurses, the category 81-100 per cent would be selected. In both instances, it was assumed the respondent was indicating high satisfaction with the nurses' performance because, in the first instance, only 20 per cent or fewer of the nurses with whom she/he came in contact failed to protect her/his privacy (i.e., 80 per cent or more of the nurses did protect the patient's privacy--a patient right that was deemed to be representative of satisfaction with nursing care). Similarly, it was assumed that a respondent was highly satisfied when 81-100 per cent of the nurses took the effort to discuss the patient's health needs.

Structure Unique to Scale Two

Similar to scale one, response categories for scale two comprised a five-point Likert-type scheme. However, scale two utilized two sets of descriptive phrases rather than per cent categories to delineate each point in the Likert scale. The phrases for the negatively-stated items were: "very inconsiderate," "usually inconsiderate," "about average consideration," "usually considerate," and "very considerate." The response alternatives for the positively-stated items included: "very little effort," "little effort," "average effort," "considerable effort," and "great effort." The word phrases were intentionally selected as being most representative of the negative/positive nature of the item.

In replying to either the positively- or negatively-formatted items, the respondent had to discern the amount of effort or consideration expended by the nurses in providing nursing care; further, the respondent was to describe her/his nurses in general, not the proportion of nurses who did or did not do acceptable service. Thus, in responding to the negatively-stated item--"How inconsiderate were the nurses with whom I came in contact in that they did not protect my privacy?"--it was assumed that a respondent denoted high satisfaction if she/he specified nurses with whom she/he came in contact were "very considerate" in regards to protecting one's privacy. Conversely, if the response was "very inconsiderate," it was assumed the respondent was indicating great dissatisfaction. For positively-stated items--for example, "How much effort did the nurses with whom I came in contact spend discussing my health needs?"--a response of "great effort" was assumed to equate with high satisfaction and a response of "very little effort" was assumed to equate with great dissatisfaction.

In summary, the two scales developed for use in this investigation have been described regarding content and structure. The steps taken to establish face and content validity, techniques of data collection, and models of choice for statistical analyses are now discussed.

DESIGN STEPS FOR ESTABLISHING VALIDITY

Face Validity

An estimate of face validity of all items was established by assessing the comments of (a) individuals who examined both scales prior to their use in a pilot study, (b) pilot study respondents, and (c) respondents in the main investigation.

In the first instance, both scales were submitted to 10 face validators (the number of individuals was determined by constraints of availability and time) who had previously been patients in a hospital (cf. Figure 1, step 1.3). These face validators varied with regard to age, sex, educational background and occupational status (to enhance representativeness of the face validators). Each individual was asked to review the directions, examples, and the 20 items according to the following criteria: clarity of meaning, ease of understanding, lack of ambiguity, and relevance of the content. Additionally, they were invited to comment about the questionnaire format in general. Based on these comments modifications were planned if weaknesses or shortcomings were identified.

A small pilot study, a second step in establishing face validity (cf. Figure 1, step 1.5) was conducted on a group of 90 recently discharged patients in order to: (a) test the wording and presentation of the two scales, (b) determine the applicability of the items, and (c) assess the expected response rate. The size of this subject group (in the pilot study) was determined by constraints of availability and time. Again, comments from the pilot sample could determine necessary changes.

The definitive step in establishing face validity was the comments of respondents from the main investigation and these comments will be discussed in the findings of this study (cf. Chapter IV, pp. 48, 74).

Content Validity

To achieve an estimate of content validity (cf. Figure 1, step 1.4), a number of nurses deemed by the investigator to be representative of "content experts" was asked to examine the scales before their use in the main investigation.

Eleven nurses (educators, practitioners, and administrators) of varying ages, educational backgrounds, and occupational status (variation employed to enhance the representativeness of the content validators) were asked to assess the two scales according to the previously stated criteria (cf. p. 38). In addition, these "experts" were asked to comment about the representativeness of the 20 items in view of the four patient rights outlined by the Consumers' Association of Canada (1974). *A priori* to the assessment by the "content experts," a 75 per cent agreement among validators was established for the inclusion or exclusion of any item in the questionnaire (Hazlett, 1975, p. 703). Once more, the constraints of availability and time were factors determining the number of nurses employed as content validators.

Construct Validity

Since all scales and formats were intended to measure the same non-operationalized construct (cf. Figure 1, step 1.9), it was hypothesized that each scale and each format, or any combination thereof, would yield data which would result in a unidimensional solution when subjected to factor analysis.

Additionally, comparison of the raw means from the scales, formats, and occupational groups afforded insight into whether or not the construct of satisfaction was actually measured and if so if one scale was more valid than another. Consequently, the following hypotheses related to mean differences were made. First, if the format of the positively- and negatively-stated items did not introduce any bias in the measurement of the construct satisfaction, one would hypothesize that no mean differences would exist between the mean scores of the two formats. Second, if the use of varying alternatives did not introduce any bias, one would hypothesize that no statistically significant mean differences would be found between scale one and scale two. Third, for reasons identical to these two previous hypotheses, one would hypothesize that no statistically significant interaction of scale and format would be found.

Fourth, and most critically important, one would hypothesize that mean differences would exist amongst the three occupational groups of patients--nurses, HCWs, and NHCWs. The reasons for this hypothesis directly stem from the design of this study which restricted content coverage in the questionnaire, that is, nursing service that directly related to patient rights. Due to the relatively recent focus upon patient rights in the health care system, it is reasonable to assume that nurses and HCWs would be more informed of patient rights (cf. p. 13), and as such more demanding that nursing care provided to them as patients met their expectations. Thus, the previously described lack and/or presence of mean differences in the scores of respondents would add to the evidence that the construct of satisfaction was attained (Cronbach et al., 1955).

When these hypotheses are tested under the null assumption, it is necessary that one establish adequate statistical power if the rejection of or failure to reject the null is to be used as supporting evidence for construct validity. The power of a statistical test is the probability of appropriately accepting a true alternative hypothesis or conversely, rejecting a false null hypothesis (Cohen, 1977, p. 4). Three parameters (most directly of interest to any investigator) affecting the power of a statistical test are: the significance criterion (alpha), sample size, and effect size (that is, "the degree to which the phenomenon exists" [Cohen, 1977, pp. 4-17]). In this investigation, alpha (two-tailed) was set at .05, an effect size of "medium" was assumed, and a sample size appropriate for power of at least .80 was determined. With these parameters, the required total sample size was 192, with n's per scale, format, and occupational group as given in Figure 3.

With sample sizes as designated in Figure 3, and assuming the construct was adequately measured by both scales and both formats, statistically significant differences would likely (.8 probability) be found if any systematic bias of either scale or format was at least of a medium effect size. Power associated with determining the interaction of these two factors would be .935 for a medium effect size. Finally, if the construct satisfaction was indeed measured there would be a .88 probability of finding statistically significant results on the factor of occupational groups (NHWs, HCWs, and nurses) provided the effect of groups was at least in the order of a medium effect size.

In summary, there was at least a .8 probability that any differences between scales, formats, or among occupational groups would be detected provided the systematic bias or difference was of the order of at least a medium effect size. While differences of the order of small effect sizes would remain undetected, it was assumed that this degree of statistical power was adequate in order to use mean differences (or the lack of same) as supporting evidence

Type of Respondent	Scale One		Scale Two		
	FORMAT		FORMAT		
	Negative	Positive	Negative	Positive	Totals
Non-Health Care Workers	16	16	16	16	64
Health Care Workers	16	16	16	16	64
Nurses	16	16	16	16	64
Sub-Totals	48	48	48	48	
Totals	96		96		192

Figure 3: The Basic Design Utilized for Statistical Analyses

(Numbers in "Totals" columns per scale and type of respondent, and "Sub-Totals" columns for format are the minimal requirements to attain adequate power for all statistical analyses.)

in any investigation of the construct satisfaction.

DATA COLLECTION

The sampling technique employed in this investigation was a variation of quota sampling. The specified sample sizes in Figure 3 were deemed essential to attain the desired statistical power of .8 for detecting mean differences under the null assumption. However, as completed questionnaires were to be obtained by a mail survey, it was deemed necessary to oversample by a factor of two (assuming a response rate to a mailed questionnaire to be .5). If the actual sample sizes had to be less than twice the numbers specified in Figure 3, only factors of time constraints, growing imposition upon participating hospitals, and/or availability of discharge patients during the collection period were to be the limiting constraints.

In order to select subjects for the survey the following steps and criteria were taken and employed. First, appropriate administrators from three metropolitan hospitals in the city of Edmonton were contacted for permission to gather the necessary information from discharged patients' charts in each hospital. In all three institutions this permission was granted following an ethical review of the proposed study.

Second, at times convenient for hospital staff, the investigator searched available discharge charts at each hospital. For purposes of convenience and availability, chart selections were restricted to those of patients discharged within the previous 48 hours and to those which came from medical, surgical, and obstetrical wards.

Third, eligible subjects were identified by invoking these criteria: (a) the discharged patient had to be at least 18 years old (the assumption being the respondent was an adult judged capable of making an informed decision regarding voluntary participation in this study); (b) the corresponding chart had to have the occupational status of the patient (required in order to stratify the subjects according to the three occupational groups [NHCW, HCW, and nurse]); and (c) the chart had to have the patient's address (needed in this investigation since data collection was via a mail survey).

Fourth, eligible survey subjects were stratified according to occupational status, alphabetically ordered by surname, and then randomly assigned to receive scale one or scale two. In keeping with Andrew's (1978, p. 79) findings--"Possibly the only trustworthy answers in mail questionnaires are from the unprompted respondents"--no follow-up study was planned.

Fifth, within 24 hours of identifying the eligible subject, the questionnaire was mailed to the subject along with an introductory letter (cf. Appendix D) which included an explanation of the purpose in this investigation, the importance of her/his response, and an assurance of anonymity. A stamped, self-addressed envelope was enclosed for the convenience of the respondent.

STATISTICAL MODELS CHOSEN FOR DATA ANALYSES

In this section, the various processes and statistical models utilized to estimate reliability and construct validity are described.

Reliability

Cronbach's (1951) alpha coefficient was used to assess the degree of reliability, in particular, internal consistency, of the two scales (cf. Figure 1, step 1.8). Since both scales were developed to be measures of a single construct, *a priori*, one would expect a relatively high alpha coefficient if validity was indeed attained.

Construct Validity

When used as an exploratory device, factor analysis (cf. Figure 1, step 1.9) provides insight into the underlying functional dimension(s) or construct(s) of a group of variables (Cattell, 1952, pp. 15-16). Both orthogonal and oblique solutions were obtained to discern the most complete, interpretable solution. Provided the scale or format did not influence the accurate measurement of the satisfaction construct a unidimensional solution would be anticipated (cf. pp. 39-41).

Mean differences (cf. pp. 39-41) were studied via a three-way analysis of variance with one factor repeated. The independent factors were occupational groups (NHCWs, HCWs, and nurses) and scales (one and two) and the dependent factor was format (negatively- and positively-stated items). Since items, formats, and respondents were randomly assigned, statistical equivalence could be assumed (95 per cent confidence) provided systematic bias or differences of at least a medium effect size did not actually exist.

SUMMARY OF CHAPTER

Although a common method (questionnaire) was utilized and a single construct (satisfaction) was investigated, two scales were developed comprised of positively- and negatively-stated items and each having different response categories (percentage levels or descriptive words ordered on a five-point Likert basis). Face and content validity were estimated by giving the scales to individuals who had been patients and to nursing personnel respectively to scrutinize.

Discharged patients, stratified according to occupational status, were randomly assigned to either scale and then sent, by mail, the questionnaires. Appropriate statistical models were chosen to assess the responses of subjects. Differences between scales, formats, and groups of respondents were used in conjunction with factor solutions in order to determine the degree of construct validity of the scales.

A discussion of the results and interpretation of such analyses is presented in the following chapter.

CHAPTER IV

RESULTS AND INTERPRETATION OF DATA ANALYSES

INTRODUCTION

The results and interpretation of data analyses are presented in keeping with the major purpose in this investigation: to determine empirically the degree of validity inherent in two scales designed to measure patient satisfaction with nursing care. The specific research design necessitated approaching the analyses from several viewpoints (cf. Chapter III). Accordingly, all data were analyzed by scale (both scales combined, scale one and scale two independently), by format (all items and as sets of negative and positive items) and by occupational groups (non-health care workers [NHCW], health care workers [HCW], and nurses).

RESULTS OF STATISTICAL ANALYSES

Establishment of Face Validity

The 10 individuals who contributed to the estimate of face validity (cf. p. 38) indicated that the items appeared reasonable and relevant to the stated purpose in the questionnaire. However, based upon their comments, a few minor revisions in wording were made to enhance the clarity of items. Thirty NHCWs (potentially, face validators) replied to the scales in the pilot study. Since no comments were made regarding the criteria established for estimating face validity, it was assumed that the scales appeared relevant, reasonable, and clear to those who responded.

However, in responding to scale one (pilot study), a NHCW commented that it was difficult to work in percentages. As this investigation was specifically designed to assess the utility of percentage versus the phrase alternatives, no alteration was possible. Another NHCW, responding to scale two, stated, "The words 'inconsiderate' and 'not' create a negative illusion and seem inappropriate. I consider questions 1-10 of a type that solicits bias." Again, it was impossible to alter the wording without interfering with another purpose of the investigation--to determine whether or not individuals respond differently to negatively- versus positively-stated items.

Similar comments were received from respondents who participated in the main investigation. Although few in number, the respondents providing comments about the scales stated their primary difficulties stemmed from the percentage alternatives of scale one and the negative format in general. Further support for these findings was obtained in the results of factor analyses and analyses of variance.

In summary, therefore, a limited degree of face validity was established in this investigation overall, but as noted, questions worded positively and those questions that did not use percentage alternatives were regarded as best by respondents.

A total of 90 questionnaires were distributed in the pilot study; 48 (53.3%) individuals responded. The approximate overall 50 per cent response rate verified the need to double the sample size of the main investigation in an attempt to achieve suitable cell sizes for power (cf. p. 41)--although representativeness of respondents was immediately a concern. A more specific breakdown of the pilot study returns by scale and type of respondent is presented in Table 1.

Establishment of Content Validity

The content experts were in complete agreement that all items were reasonable and relevant to the stated purpose of the questionnaire. Minor revisions in wording were suggested to enhance clarity of meaning of some items. According to the content experts the items were representative of the four patient rights outlined by the Consumers' Association of Canada (1974). No recommendations were made to include or exclude a particular item in an attempt to increase the representativeness of the scale. Thus some reasonable degree of content validity was attained.

Establishment of Power

Based on the pilot study response rates, an attempt was made to double the required sample size cited in Figure 3 (cf. p. 42). Due to constraints of time, availability of eligible subjects, and increasing apparent imposition this study's data collection procedures were placing on the participating hospitals, the n's achieved in the HCW and nurse categories fell short of the number required.

Only 300 patients were selected, and 150 individuals were randomly assigned to receive each scale (64 were NHCWs, 43 HCWs, and 43 nurses). Questionnaires were returned by 183 of the 300 potential respondents, resulting in an overall response rate of 61 per cent. Specifically by scale, 94 (62.67%) and 89 (59.33%) individuals responded to scale one and scale two respectively. Return rates for the various types of respondents and scales are

TABLE 1

RESPONSE RATES FOR PILOT STUDY BY SCALE AND TYPE OF RESPONDENT

Scale	Type of Respondent	Number Sent	Number Returned	Response Rate (%)
Both Scales	Non-Health Care Worker	61	30	49.18
	Health Care Worker	18	8	44.44
	Nurse	11	10	90.91
TOTALS		90	48	53.33
Scale One	Non-Health Care Worker	31	15	48.38
	Health Care Worker	8	6	75.00
	Nurse	6	6	100.00
TOTALS		45	27	60.00
Scale Two	Non-Health Care Worker	30	15	50.00
	Health Care Worker	10	2	20.00
	Nurse	5	4	80.00
TOTALS		45	21	46.67

illustrated in Table 2 specifying total and usable returns. As mentioned in Chapter III (cf. p. 44), no follow-up measures were planned.

Only those returned scales with a response for every item were included in data analyses. As might be anticipated, the number of usable scales did not coincide with the total number of questionnaires returned. Refer to Table 2 (columns 4 and 5) for the numbers and percentages of usable questionnaires by scale and type of respondent. The relatively low response rates for the HCW and nurse categories necessitated collapsing these groups for some data analyses.

Given the response rates in the main investigation, the obtained power for small, medium, and large effect sizes for independent factors, dependent factor, and interaction effects in the three-way analysis of variance statistical analyses are specified in Table 3. Note, however, that these cited power levels require one to assume that respondents were indeed representative.

Establishment of Reliability

The reliability coefficient for both scales combined using Cronbach's alpha was .931, an indicator that both scales combined were internally consistent and probably unifactored (cf. Table 4). (It is important to note that the alpha coefficients in columns 2 and 4 of Table 4 are adjusted values using the Spearman-Brown Prophecy Formula to reflect those values obtainable if the test length were doubled to be the same as the total test [20 items]. The alpha coefficients in columns 3 and 5 are those derived when

TABLE 2

RESPONSE RATES FOR MAIN INVESTIGATION BY SCALE AND TYPE OF RESPONDENT

			(Overall) Total Returns		Usable Returns	
Scale	Type of Respondent	Number Sent	Number Returned	Response Rate (%)	Number Returned	Response Rate (%)
Both Scales	Non-Health Care Worker	128	72	56.25	53	41.41
	Health Care Worker	86	40	46.51	27	31.40
	Nurse	86	71	82.56	52	60.41
TOTALS		300	183	61.00	132	44.00
Scale One	Non-Health Care Worker	64	38	59.38	25	39.06
	Health Care Worker	43	19	44.19	14	32.56
	Nurse	43	37	86.05	24	55.81
TOTALS		150	94	62.67	63	42.00
Scale Two	Non-Health Care Worker	64	34	53.13	28	43.75
	Health Care Worker	43	21	48.84	13	30.23
	Nurse	43	34	79.07	28	65.12
TOTALS		150	89	59.33	69	46.00

TABLE 3

POWER FOR SMALL, MEDIUM, AND LARGE EFFECT SIZES FOR INDEPENDENT AND DEPENDENT FACTORS AND INTERACTION EFFECTS IN THE THREE-WAY ANALYSIS OF VARIANCE STATISTICAL ANALYSES

Factors/Effects	Power Effect Sizes Small	 Medium	 Large
Independent Factors			
Scale	.205	.82	.99
Group	.16	.73	.99
Dependent Factor			
Format	.205	.82	.99
Interaction Effects			
Scale by Group	.155	.72	.99
Scale by Format	.205	.82	.99
Group by Format	.155	.72	.99
Scale by Group by Format	.155	.72	.99

TABLE 4

RELIABILITY (ALPHA COEFFICIENT) OF SCALES BY ITEMS

Scale	All Items	Negative Items		Positive Items	
	K*=20	K=20	K=10	K=20	K=10
Both Scales n=132	.931	.926**	(.863)***	.957**	(.917)***
Scale One n=63	.910	.899	(.817)	.956	(.915)
Scale Two n=69	.954	.953	(.911)	.962	(.926)

*K = Number of Items

**Values are Those if Test Length Doubled by Spearman-Brown Prophecy Formula to be Same as Total Test

***Values in Parentheses are Those if Test Length Divided in Half (i.e., Ten Negative and Ten Positive Items) only half of the test items were assessed.) When the scales were assessed individually, the reliability coefficient for scale one (the choices were those with five percentage alternatives) was .910 and for scale two (the choices of alternatives were phrases) .954. Additionally, the alpha coefficients were calculated for the negative and positive items per scale. Of interest are the lower reliability coefficients produced by the negative items in comparison with the positive items. Moreover, it is noteworthy that scale two consistently yielded higher reliability coefficients in contrast to scale one.

The reliability coefficients of the scales by format and type of respondent are provided in Table 5. With one exception, the reliability coefficients were relatively high, ranging from .903 to .972; the one exception (.843) resulted from the negative items of scale one for the HCW category. In summary, the lowest reliability coefficients were observed in scale one, the negative items, and the HCW category.

It is important to keep these relatively high alpha coefficients in mind while reading the following discussion of analyses related to establishing construct validity.

Establishment of Construct Validity: Factor Analysis

Scores from the 132 respondents who had answered all items were analyzed via orthogonal and oblique principal axis factor solutions. Three factors were obtained with eigenvalues greater than one (8.959, 1.958, and 1.465 respectively) explaining 61.9 per cent of the variance in response to both scales. When analyzed independently, each scale produced four factors with eigenvalues

TABLE 5

RELIABILITY (ALPHA COEFFICIENT) OF SCALES BY ITEMS AND TYPE OF RESPONDENT

Scale	Type of Respondent	All Items	Negative Items		Positive Items	
		K*=20	K=20	K=10	K=20	K=10
Both Scales	Non-Health Care Worker n=53	.939	.950**	(.904)***	.966**	(.935)***
	Health Care Worker† n=79	.923	.903	(.823)	.949	(.903)
Scale One	Non-Health Care Worker n=25	.916	.941	(.888)	.963	(.929)
	Health Care Worker n=38	.903	.843	(.729)	.950	(.905)
Scale Two	Non-Health Care Worker n=28	.965	.963	(.929)	.972	(.945)
	Health Care Worker n=41	.944	.946	(.897)	.952	(.909)

*K = Number of Items

**Values are Those if Test Length Doubled by Spearman-Brown Prophecy Formula to be Same as Total Scale

***Values in Parentheses are Those if Test Length Divided in Half (i.e., Ten Negative and Ten Positive Items)

†This Group Includes Nurses

greater than one, accounting for 67.5 per cent of the variance for scale one (eigenvalues were 7.918, 2.567, 1.732, and 1.275) and 71.5 per cent for scale two (eigenvalues were 10.890, 1.320, 1.073, and 1.014).

In all cases, factor solutions were repeated successively reducing the number of factors. Depending upon the scales, usually a one factor (but sometimes a two factor orthogonal) solution provided interpretable results while still explaining a sufficiently large proportion of the variance. Each of these solutions is now discussed.

Both Scales.

A two factor varimax orthogonal solution of both scales yielded a first factor with an eigenvalue of 8.499, explaining 42.50 per cent of the variance (cf. Table 6). Nineteen of the 20 items had loadings greater than .50; the exception was item six (.387). The eigenvalue for the second factor was 1.538, accounting for 7.69 per cent of the variance. Only two items (2 and 3) had loadings greater than .5 on this second factor. Due to the small eigenvalue of this second factor and the relatively low loadings of all items on it, a one factor solution was also sought.

That one factor solution had an eigenvalue of 8.42 explaining 42.1 per cent of the variance and a pattern very similar to the first factor of the two factor solution emerged (cf. Table 7). As delineated in the following discussion, the one factor solution was deemed to represent the best solution when both scales were factor analyzed.

Three topical areas appeared to correspond to the various loadings on this one factor. Those items with loadings greater than

TABLE 6

FACTOR ANALYSIS--BOTH SCALES

TWO FACTOR VARIMAX ORTHOGONAL SOLUTION

Item Number	Variable Description	Communalities	Factor I	Factor II	
1	Not Ask Questions	.342	.584	.029	
2	Not Protect Privacy	.603	.536	.562	
3	Not "Treat" Skillfully	.572	.542	.527	
4	Not Discuss Selfcare	.316	.543	- .145	
5	Not Respond to Call	.553	.661	.341	
6	Not Inform About Rights	.158	.387	- .089	
7	Not Meet Personal Care	.718	.745	.404	
8	Not Teach to Cope	.337	.577	- .060	
9	Not Address by Name	.360	.547	.246	
10	Not Convey Genuine Concern	.726	.802	.289	
11	Discuss Health Needs	.533	.657	- .319	
12	Consider Opinion Worthwhile	.581	.740	- .182	
13	Allow to Make Decisions	.442	.642	- .174	
14	Explain Procedures	.429	.608	- .244	
15	Inform About Progress	.587	.704	- .303	
16	Concern About Emotional Needs	.693	.766	- .327	
17	Provide Instructions	.467	.683	- .035	
18	Treat as Unique Person	.644	.789	- .147	
19	Leave Call Light Convenient	.335	.578	.030	
20	Take Time to Chat	.642	.775	- .203	
	Eigenvalue		8.499	1.538	
	Per Cent of Total Variance		42.495	7.69	50.185

TABLE 7

FACTOR ANALYSIS--BOTH SCALES

ONE FACTOR SOLUTION

Item Number	Variable Description	Communalities	Factor I
1	Not Ask Questions	.344	.587
2	Not Protect Privacy	.266	.516
3	Not "Treat" Skillfully	.275	.524
4	Not Discuss Selfcare	.297	.545
5	Not Respond to Call	.426	.653
6	Not Inform About Rights	.151	.389*
7	Not Meet Personal Care	.534	.731
8	Not Teach to Cope	.337	.580
9	Not Address by Name	.297	.544
10	Not Convey Genuine Concern	.633	.795
11	Discuss Health Needs	.426	.652
12	Consider Opinion Worthwhile	.550	.741
13	Allow to Make Decisions	.413	.643
14	Explain Procedures	.368	.607
15	Inform About Progress	.490	.700
16	Concern About Emotional Needs	.577	.760
17	Provide Instructions	.471	.686
18	Treat as Unique Person	.627	.792
19	Leave Call Light Convenient	.338	.581
20	Take Time to Chat	.602	.776
	Eigenvalue		8.420
	Per Cent of Total Variance		42.1

*Loading Less Than .50 .

.70 related to what may be termed personalization of care. Phrases such as "genuine concern" (item 10), "unique person" (item 18), and "consider opinion worthwhile" (item 12), connote respect for the patient. Other items pertain to the personal nature of the patient, "personal care" (item 7) and "emotional needs" (item 16) as well as the opportunity to discuss individual interests (items 15 and 20). Items with loadings in the .6 to .7 range related to information exchange. Three items (11, 14, and 17) refer to the giving of information to the patient whereas items 5 and 13 refer to obtaining information from the patient. The remaining items, with loadings in the .5 to .6 range, related to the performance of nursing personnel (items 1, 2, 3, 4, 8, 9, and 19). Some of the specified nursing actions included: carrying out treatments skillfully (item 3), protecting the patient's privacy (item 2), addressing the patient by name (item 9), and leaving the call light in a convenient place (item 19).

In assessing these factor loadings, it was noted that the content of the items rather than the negative or positive format of the statement appeared to influence the observed shared variance amongst all items. Since the common content of all items dealt with the patient's expectation of nursing care, the factor was deemed to signify "satisfaction with nursing care," a term that appropriately underlies the three topical areas that merged on this one factor. The strength of this single factor, also evident in the first factor of the two factor varimax orthogonal solution, was indicative that a unidimensional solution was indeed best.

It is important to note that this solution was based on the collapsing of the two presumed parallel scales so that a solution could be done on the total sample of 132. In that a solution was found that was not only relatively strong in accounting for a large proportion of variance, but also interpretable, it appeared possible that parallelism was indeed present in terms of at least the main measured construct (i.e., satisfaction).

Other one factor analysis solutions for the sets of 10 negative items (drawn from both scales) and 10 positive items (again from both scales) supported the unifactored nature of the scales when both scales were considered. It is noteworthy that the negative items produced an eigenvalue greater than one for the second factor of a two factor solution whereas the positive items produced an eigenvalue of less than .5 for the second factor, again the latter solution supporting the unifactoredness of both scales combined (cf. Appendix E, Tables A, B, C, and D).

Scale One.

When only scale one was factored and a two factor varimax orthogonal solution derived, the eigenvalues were 7.46 and 2.16 explaining 37.29 and 10.82 per cent of the variance for Factor I and Factor II respectively (cf. Table 8). Sixteen of the 20 items had loadings greater than .5 for the first factor. For the second factor, three items had loadings greater than .5 and seven items had either positive or negative loadings in the .3 to .4 range. Interestingly, 11 items loaded negatively--10 items of which had the positive format--and nine positively on this second factor, all of which had

TABLE 8

FACTOR ANALYSIS--SCALE ONE

TWO FACTOR VARIMAX ORTHOGONAL SOLUTION

Item Number	Variable Description		Factor	Factor	
		Communalities	I	II	
1	Not Ask Questions	.257	.507	.016	
2	Not Protect Privacy	.688	.491*	.669	
3	Not "Treat" Skillfully	.612	.423*	.658	
4	Not Discuss Selfcare	.259	.509	.014	
5	Not Respond to Call	.516	.602	.393	
6	Not Inform About Rights	.048	.215*	- .043	
7	Not Meet Personal Care	.706	.668	.509	
8	Not Teach to Cope	.281	.521	.096	
9	Not Address by Name	.286	.418*	.334	
10	Not Convey Genuine Concern	.639	.721	.345	
11	Discuss Health Needs	.489	.600	- .358	
12	Consider Opinion Worthwhile	.629	.727	- .317	
13	Allow to Make Decisions	.485	.624	- .310	
14	Explain Procedures	.390	.600	- .174	
15	Inform About Progress	.474	.651	- .225	
16	Concern About Emotional Needs	.766	.821	- .303	
17	Provide Instructions	.441	.654	- .113	
18	Treat As Unique Person	.682	.786	- .252	
19	Leave Call Light Convenient	.291	.533	- .080	
20	Take Time to Chat	.684	.797	- .220	
	Eigenvalue		7.458	2.164	
	Per Cent of Total Variance		37.29	10.82	48.11

*Loading Less Than .5.

the negative format.

A one factor solution for scale one yielded an eigenvalue of 7.35 accounting for 36.77 per cent of the variance (cf. Table 9). Again, the same 16 items produced loadings greater than .5 and thus, this one factor solution was interpreted to be the same as the first factor in the two dimensional solution. However, unlike the combined scale factor solutions, the two factor varimax orthogonal solution was considered to be the best for scale one alone as illustrated in the following discussion.

Fundamentally, the three topical areas, previously described for both scales, persisted in the first factor of the scale one solution. Personalization of care was evident in the high loadings of item 16 (greater than .8) and items 10, 12, 18, and 20 (in the .7 to .8 range). The item regarding needs for personal care (item 7) accompanied the other items indicating information exchange (items 5, 11, 13, 14, 15, and 17). Nursing behaviours regarding the placement of the call light (item 19) as well as seeking (item 1) and providing information (items 4 and 8) combined to represent the topical area performance of nursing personnel.

While the preceding items of scale one provided a close approximation of the item loadings from the factor analysis of both scales, four items (2, 3, 6, and 9) produced loadings less than .5. Even though the loadings were lower, three of the four items (2, 3, and 9) resembled the content of the statements within the performance of nursing personnel topical area. Interestingly, item 6, "Not inform me about my rights as a patient?" was the lowest loading item when both scales and scale one were factor analyzed. Despite these

TABLE 9

FACTOR ANALYSIS--SCALE ONE

ONE FACTOR SOLUTION

Item Number	Variable Description	Communalities	Factor 1
1	Not Ask Questions	.260	.510
2	Not Protect Privacy	.211	.459
3	Not "Treat" Skillfully	.157	.396
4	Not Discuss Selfcare	.264	.514
5	Not Respond to Call	.347	.589
6	Not Inform About Rights	.047	.217
7	Not Meet Personal Care	.413	.643
8	Not Teach to Cope	.275	.524
9	Not Address by Name	.170	.412
10	Not Convey Genuine Concern	.503	.709
11	Discuss Health Needs	.356	.597
12	Consider Opinion Worthwhile	.524	.724
13	Allow to Make Decisions	.387	.622
14	Explain Procedures	.364	.603
15	Inform About Progress	.426	.653
16	Concern About Emotional Needs	.671	.819
17	Provide Instructions	.434	.659
18	Treat as Unique Person	.619	.787
19	Leave Call Light Convenient	.290	.538
20	Take Time to Chat	.640	.800
	Eigenvalue		7.354
	Per Cent of Total Variance		36.77

qualifications, Factor I of scale one could reasonably be regarded as "satisfaction with nursing care."

The second factor of this two factor varimax orthogonal solution for scale one was not as easily interpreted. A finding unique to this second factor was that all of the positively-stated items had negative loadings while nine of the 10 negatively-stated items had positive loadings. Keeping in mind that all items were randomly assigned to be stated either positively or negatively, it seemed feasible, therefore, to contemplate the format of the item, particularly in terms of the ease or difficulty a respondent encountered in making the appropriate response as the context in which the factor should be evaluated. Thus the second factor was labelled "difficulty with format," since only the negative items loaded positively, and, it was this format about which subjects expressed some concern or difficulty in answering.

It is noteworthy that factor analysis of the 10 negative items from scale one appeared to substantiate the two factor solution for all items from scale one. However, the 10 positive items seemed to be unifactored (cf. Appendix E, Tables E, F, G, and H). Apparently, the positively-stated items more obviously measured a single dimension than did the negative items.

Scale Two.

When a two factor solution was sought for scale two, eigenvalues of 10.48 and .907 were found (52.41 and 4.54 per cent of the variance) for Factor I and Factor II respectively (cf. Table 10). All items had loadings of .5 or greater for the first factor and none

TABLE 10

FACTOR ANALYSIS--SCALE TWO

TWO FACTOR VARIMAX ORTHOGONAL SOLUTION

Item Number	Variable Description		Factor	Factor	
		Communalities	I	II	
1	Not Ask Questions	.651	.710	.383	
2	Not Protect Privacy	.328	.569	- .065	
3	Not "Treat" Skillfully	.522	.668	.275	
4	Not Discuss Selfcare	.567	.622	.425	
5	Not Respond to Call	.551	.713	- .206	
6	Not Inform About Rights	.475	.643	.249	
7	Not Meet Personal Care	.731	.837	- .172	
8	Not Teach to Cope	.465	.670	.127	
9	Not Address by Name	.483	.695	- .013	
10	Not Convey Genuine Concern	.794	.886	- .096	
11	Discuss Health Needs	.621	.756	.222	
12	Consider Opinion Worthwhile	.612	.775	- .107	
13	Allow to Make Decisions	.544	.682	- .281	
14	Explain Procedures	.446	.667	.025	
15	Inform About Progress	.684	.817	- .126	
16	Concern About Emotional Needs	.609	.751	- .214	
17	Provide Instructions	.567	.725	.202	
18	Treat as Unique Person	.727	.813	- .256	
19	Leave Call Light Convenient	.385	.621	.017	
20	Take Time to Chat	.628	.772	- .180	
	Eigenvalue		10.482	.907	
	Per Cent of Total Variance		52.41	4.54	56.95

of the items on the second factor furnished loadings greater than .5. Accordingly, evidence existed that a one factor solution would be best.

The one factor solution with a corresponding eigenvalue of 10.437 (accounting for 52.19 per cent of the variance) is provided in Table 11. Note that 19 of the 20 items had loadings greater than .6, the twentieth item in the .5 to .6 range. Accordingly, the unidimensionality of scale two was more firmly evident and, therefore, for scale two, the following discussion pertains to that one factor solution. Further, the item loadings on the one factor closely parallelled the three topical areas that converged on the first factor previously described for both scales and scale one.

Perhaps in fact this one factor solution for scale two furnished the "best" representation of the three topics. Items conveying personalization of care were those items that expressed "genuine concern" (item 10) for a "unique person" (item 18) with needs for "personal care" (item 7) and information about her/his progress (item 15). One aspect of the information exchange topic, provision of information, was represented by item 20, take the "time to chat" to "discuss health needs" (item 11), and to "provide instructions" (item 17). Another aspect, that of obtaining information from the patient, was illustrated by items regarding encouraging the patient to "ask questions" (item 1) and responding to the patient's call for assistance (item 5). Two items within the information exchange category may or may not have required conversation: consider "opinion worthwhile" (item 12) and show concern about "emotional needs" (item 16). The third topic, performance of nursing personnel, included items indicating a

TABLE 11

FACTOR ANALYSIS--SCALE TWO

ONE FACTOR SOLUTION

Item Number	Variable Description	Communalities	Factor I
1	Not Ask Questions	.491	.701
2	Not Protect Privacy	.325	.570
3	Not "Treat" Skillfully	.441	.664
4	Not Discuss Selfcare	.374	.611
5	Not Respond to Call	.507	.711
6	Not Inform About Rights	.409	.640
7	Not Meet Personal Care	.700	.837
8	Not Teach to Cope	.449	.670
9	Not Address by Name	.485	.696
10	Not Convey Genuine Concern	.787	.887
11	Discuss Health Needs	.569	.754
12	Consider Opinion Worthwhile	.602	.776
13	Allow to Make Decisions	.460	.678
14	Explain Procedures	.447	.669
15	Inform About Progress	.670	.818
16	Concern About Emotional Needs	.561	.749
17	Provide Instructions	.524	.724
18	Treat as Unique Person	.655	.810
19	Leave Call Light Convenient	.387	.622
20	Take Time to Chat	.595	.771
	Eigenvalue		10.437
	Per Cent of Total Variance		52.19

variety of nursing activities (items [2], 3, 4, 6, 8, 9, 13, 14, and 19). Among the nursing activities comprising this last category were those encouraging patient participation in her/his care (items 4 and 13), demonstrating skillful nursing care (items 3 and 14), and showing respect for the patient (items [2], 6, and 9). For obvious reasons, therefore, this one factor was termed "satisfaction with nursing care."

Separate factor analyses of the 10 negative and then 10 positive items in scale two substantiated the single dimension of what was measured in this scale two. The amount of variance of responses explained by the one factor for negative items was 52.42 per cent and 57.16 per cent for positive items (cf. Appendix E, Tables I, J, K, and L).

Establishment of Construct Validity: Analysis of Variance

A three-way analysis of variance with one factor repeated was performed: the two scales and three groups of respondents (NHCW, HCW, and nurse) were the independent factors and the format of the negative and positive items was the repeated measure factor (cf. Table 12). Note the statistically significant finding for the interaction of scales and format (probability = .034). In all probability the effect of this interaction is of an order that is at least medium effect size, if not large, since power for this interaction was only .21 for small effects. Since this interaction existed the main effects of simply scales or format are not of interest. The second independent factor, groups, was not statistically significant either by itself or in any interaction term. At

TABLE 12

THREE-WAY ANALYSIS OF VARIANCE WITH ONE FACTOR (POSITIVE AND NEGATIVE FORMAT) REPEATED

SUMMARY OF SCALES, GROUPS, AND FORMAT

Source	DF	Sum of Squares	Mean Squares	F Ratio	F Probability
Scale	1	90.890	90.890	0.706	0.402
Group	2	288.064	144.032	1.119	0.330
Scale-Group	2	574.028	287.014	2.230	0.112
Within	126	16218.688	128.720		
Format	1	455.848	455.848	19.164	0.001
Scale-Format	1	109.317	109.317	4.596	0.034*
Group-Format	2	15.161	7.581	0.319	0.728
Scale-Group-Format	2	34.599	17.299	0.727	0.485
Within	126	2997.063	23.786		

Between Subject Factors:

Scale = Scale One and Scale Two
Group = NHCW, HCW, and Nurse

Within Subject Factors:

Format = Negative and Positive

Alpha-Two-Tailed = .05

*Statistically significant, interaction present least in terms of power attained one could conclude, therefore, that the scales were used similarly by health care workers, nurses, and all others.

Due to the noted significant interaction, an attempt was made to resolve the issue of which scale by positive and negative format was the best measure of patient satisfaction with nursing care. Firstly, the mean differences between scales and format were assessed (cf. Table 13A). A comparison of the mean scores by scale and format has been highlighted in the second chart of Table 13B. If both scales and formats had been equivalent measures of patient satisfaction with nursing care, one would have found the cell means of the second chart also equivalent. However, one observes a difference of 3.9 between the formats on scale one, but only 1.4 on scale two. Furthermore, the best equivalence between scale one and two was attained with the positively-stated items.

Note that both scales and both formats should have similarly measured the degree of satisfaction if the scale or format did not introduce a systematic effect. The presence of a statistically significant interaction (when power was only *a priori* acceptable if at least medium effects were being investigated) indicates that a probable important influence of scale by format exists. The preceding examination of means shows that equivalence between scales only existed with positive format, and approximate equivalence between formats did exist only on scale two.

One therefore begins to hypothesize that the use of phrases, not percentages, for alternatives and the use of positively-

TABLE 13

A. MEAN SCORES OF FORMAT (POSITIVE AND NEGATIVE) BY SCALE AND TYPE OF RESPONDENT

	SCALE ONE				SCALE TWO				
Format	NHCW	HCW	Nurse	Mean	NHCW	HCW	Nurse	Mean	Row Mean
Negative	40.4	42.0	37.4	39.6	39.6	34.2	38.3	38.0	38.8
Positive	36.6	36.3	34.5	35.7	38.6	32.9	36.2	36.6	36.2
Column Means	38.5	39.1	35.9	37.7	39.1	33.5	37.2	37.3	

38.8

36.4

36.6

B. MEAN SCORES OF FORMAT BY SCALE (SIGNIFICANT INTERACTION)

FORMAT	SCALE ONE		SCALE TWO		ROW MEANS
		Difference = 1.6			
Negative	39.6		38.0		38.8
	Difference =3.9			Difference =1.4	
Positive	35.7		36.6		36.2
		Difference = - 0.9			
Column Means	37.7		37.3		

worded statements as opposed to those negatively-expressed, result in a more dependable measure of the construct being measured in this investigation.

When mean differences were assessed by each type of respondent, the disparity between formats persisted across both scales (cf. Table 13A), the greatest differences being demonstrated by scale one. While the mean differences at this level were not statistically significant, these directional findings are supportive of a probable systematic effect introduced by the interaction of scale by format. Again, the best equivalence between scale one and two by type of respondent was established by the positively-stated items.

Since the concept of patient rights in health care is relatively new and apparently poorly disseminated, it was hypothesized that nurses and HCWs would be in a more advantageous position (more knowledgeable) to critique nursing care and therefore, may well be more demanding of "good" care. If this postulation were true, one would anticipate that both nurses and HCWs would indicate less satisfaction than NHCWs regardless of the scale to which they responded and that HCWs could possibly be the least satisfied. In responding to scale one (without regard to format) the nurses appeared to be least satisfied (some support); however, the HCW was most satisfied (an unexpected finding). However, a closer examination of scale one by format revealed that: (a) on the positive items at least, the nurses were found to be least satisfied and NHCWs most satisfied, and the HCWs falling in between the two groups; (b) on the negative items, nurses still remained least satisfied but an illogical finding of the HCWs being most satisfied is evident. Nevertheless, more consistent results were found with scale two; the NHCWs were found to be more satisfied than either the nurses or HCWs. This finding was present in the total scale (without regard to format) as well as in the positive and negative format sections of scale two.

In view of these directional findings, one again is led to question the validity of scale one, particularly the negative format items of scale one. These statistical and directional findings seemed to be cross-validated by the comments from respondents.

RESPONDENTS' COMMENTS

Regarding Scales

In the main investigation, two nurses and eight NHCWs (10 of 183 respondents, or 5.46 per cent) made comments about the scales. Two respondents appeared to have difficulty working with percentages (scale one); three individuals indicated that the negatively-stated items of scale two were confusing and, therefore, questioned the accuracy of the responses. (Additionally, three NHCWs suggested the inclusion of a "not applicable" section in another questionnaire; one other NHCW questioned the appropriateness of the questionnaire for most patients and the use to which the data were to be put [cf. Appendix F]).

Regarding Nursing Care

Of the 150 comments about nurses added by respondents, 67 were made by NHCWs, 54 by nurses, and 29 by HCWs. Approximately 16 per cent of the respondents included both "positive" and "negative" comments in their remarks regarding nurses and nursing care. The NHCWs provided the largest number of positive comments (47) while nurses furnished the most numerous negative comments (47). Nurses were described as being "considerate," "friendly," and "helpful," as well as "indifferent," "uncaring," and "inconsiderate." Words describing nursing care ranged from "excellent," "exceptional," and "good" to "impersonal" and "poor" (cf. Appendix F).

These comments were not inconsistent with, and indeed were explanatory of, the previous statistical findings with the factor analysis and analysis of variance models. All of the findings suggested some invalidity existed with scale one or the negative format. Factor analyses suggested a two factor solution probably existed for scale one and more certainly for the negative format items of this scale. The second factor was interpreted to be a dimension of difficulty in responding to the items. The analyses of means indicated that parallelism did not exist across scales by formats (since interaction was statistically significant); further directional findings of assumed average satisfaction scores were most interpretable for positive items and for scale two. When the respondents' comments were also taken into account, it would appear that some respondents had difficulty in handling percentages and may have objected to confirming nurses provided unsatisfactory care (negative format).

In light of the foregoing cross-validations, it would appear, therefore, that scale two or the positive item format was the least problematic. Considering the conjoint utility, obviously scale two with only items expressed in the positive format would be most valid. In any analyses of data or comments, this scale with this format yielded: (a) a unidimensional, interpretable factor of satisfaction and (b) mean scores across groups (NHCWs, HCWs, and nurses) that fitted reasonable postulates, and (c) no negative comments by respondents.

SUMMARY OF CHAPTER

In this chapter, the results and interpretation of data analyses were presented. Both the pilot study and main investigation were discussed regarding face and content validity. The results of various statistical analyses (alpha coefficients, factor analyses, and three-way analyses of variance) were delineated. All analyses were done and reported by scale (both scales combined, scale one and scale two independently), by format (all items combined, sets of negative and positive items independently), and by occupational status (NHCW, HCW, and nurse).

The relatively high alpha coefficients, the various factor analyses, and the three-way analysis of variance substantially supported scale two, and in particular the positive items from that scale, as the best criterion measure. As discussed previously, this scale was called "satisfaction with nursing care," a term that reasonably underlies the construct under investigation.

A summary of this investigation along with an interpretation of the findings is presented in the next chapter. Recommendations specific to replicating this investigation are suggested. Finally, a few comments regarding implications for nursing are offered.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The major purpose in this investigation was to determine empirically the degree of validity inherent in two scales both of which were designed to measure patient satisfaction with nursing care.

A review of pertinent literature on patient satisfaction and patient rights revealed that, although many researchers have explored the area of patient satisfaction with nursing care, medical care, and/or health care services, few have adequately considered and accounted for the psychometric principles of sound methodological research and/or the association of patient rights as a source of patient satisfaction. The construct satisfaction has not been well-formulated and/or measured in health care research. Due to the diversity of populations, settings, techniques of measurement, and objects of satisfaction studied, the conceptualization of satisfaction remains both complex and problematic. A distinct need was identified for the development of a methodologically sound measurement device to measure patient satisfaction with nursing care. Further, a design that could accommodate a variety of respondent groups was deemed to merit inquiry.

This investigation involved the development of two different scales to measure patient satisfaction with nursing care relative to patient rights. Whereas the content of the items was identical, the response alternatives differed. The two diverse response categories (percentages versus words) were employed to assess whether or not the two alternatives were appropriate and equivalent (i.e., interchangeable) indicators of degree of satisfaction. Half of the 20 items in each scale were randomly assigned to be negatively- or positively-stated. The items were then randomly assigned to the order of presentation within the specified format (either negative or positive).

From the medical, surgical, and obstetrical wards of three large hospitals, a sample of 300 discharged adult patients was selected according to their occupational status, particularly, NHCW, HCW, and nurse. The respondents were stratified according to occupation, alphabetically ordered by surname, and then randomly assigned to receive scale one or scale two. Responses were submitted to statistical analyses to determine the degree of reliability and validity of the scales.

Face and content validity were limited in that the validators were not randomly selected. Nevertheless, some evidence of face and content validity was demonstrated.

It was hypothesized that scale one and scale two were parallel measures of patient satisfaction with nursing care. However, scale two consistently produced the highest, and scale one the lowest, alpha coefficients by item and type of respondent. Since the items in each scale were identical in content, the disparity in alpha coefficients between scale one and scale two may have been due, in part, to the inappropriateness of equating "per cent of nurses" (scale one response category) to a verbally described alternative (scale two) as measures of degree of satisfaction. The lower alpha coefficients yielded by the negative items may indicate the potential difficulty in responding to negatively-stated items. In consideration of these qualifications and the numerous high alpha coefficients (cf. Tables 4 and 5), scale two appeared to be the best measure of unifactoredness and, hence, the best measure of the construct under investigation.

Factor analysis was an appropriate initial statistical tool to utilize in examining a non-operationalized construct such as satisfaction. It must be noted, however, that sample size rather than degrees of freedom was utilized in the factor analysis model chosen for this study, thus yielding only descriptive, not inferential, results.

A priori, it was hypothesized that the construct satisfaction was unidimensional and, further, that the scales would be equivalent measures of that construct. The expectation of unifactoredness was most firmly established by the factor analyses of scale two, in particular scale two's positive items. Such was not the case with scale one where a two factor solution was derived, the first being interpreted to be related to the construct under investigation, but the second being indicative of respondent's difficulty in answering negatively-expressed items. The best single factor solutions (scale two and both scales combined) as well as the first factor of a two factor varimax orthogonal solution (scale one) were deemed appropriately representative of the construct under investigation and therefore, labelled "satisfaction with nursing care."

Since the two scales were hypothesized as essentially equivalent measures, the interaction effect between scales and format was unexpected if validity existed in both scales and both formats.

This interaction effect was a cross-validation of the differing factor analytic results, again suggesting inherent invalidity existed with the use of percentage alternatives of scale one and the negatively-stated items generally. This finding was further substantiated by mean differences displayed by the various types of respondents as well as by the comments made by the respondents.

It was also postulated that nurses and HCWs would be more informed regarding patient rights in health care and thus, more critical of nursing care related to such rights. Although not consistent across scales, directional evidence supporting this hypothesis was established with scale two. Moreover, nurses provided the most numerous negative comments regarding their nursing care while NHCWs provided the majority of positive comments.

It was further hypothesized that respondents would not have varying difficulties in replying to the scale to which they were randomly assigned. Although only 10 respondents (5.46 per cent) reported having difficulty regarding the scale, they specified the percentage alternatives (scale one) and the format of the negatively-stated items (particularly scale two) as being problematic.

Accordingly, evidence existed that the most valid, useful, and interpretable questionnaire was scale two and in particular the positive items from that scale.

Recommendations arising from this investigation are discussed in the next section followed by a few comments regarding implications for nursing.

RECOMMENDATIONS

It is important that in any replication endeavour serious consideration be given to overcoming the limitations associated with this investigation. Based upon the results and experience of this investigation, the following recommendations are proposed:

1. Utilize scale two's positively-stated items.
2. Select respondents randomly, increasing the sample size from a more representative population. Random selection permits generalizability of findings; an increased sample size ensures more statistical power in the results of statistical analyses.
3. Introduce interview technique. In conjunction with the recommended questionnaire, an interview technique (a second method of data collection) would bring the investigation of satisfaction a step closer to the ideal type of inquiry relative to the determination of construct validity as proposed by Campbell and Fiske (1959). In view of the absence of an appropriate criterion measure of satisfaction or related trait, it seems reasonable at this point to suggest a second method to any future investigation of scale two's positive items.

It is important to consider the purpose in and recommendations arising from this investigation. The purpose in this investigation was to determine empirically the degree of validity inherent in two scales designed to measure patient satisfaction with nursing care relative to patient rights. It was assumed that patients were suitably "qualified" to comment about the topical area of patient rights--a professionally and morally legitimate topic.

Before any suggestions regarding modifications of nursing education, practice, and administration can be offered, it is necessary to cross-validate the findings in this investigation. Thus, an implication for nursing research is proposed: replicate this investigation incorporating random selection, more hospitals and more wards. If the results from another study cross-validate the findings derived from this investigation greater trust can be placed in the tool being valid. It is at this point that implications for nursing education, practice, administration, and research may be forthcoming and most fruitful. As delineated in this investigation, the key to the trustworthiness of results in any research endeavours, and hence, any implications derived from same, rests upon the adherence of investigators to the psychometric principles of sound research.

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APPENDIX A

NON-HEALTH CARE WORKERS

A non-health care worker was defined as any adult individual whose occupation pertains to any field or work outside the health care system, or, within the health care system, any occupation that does not entail providing direct patient care. Several examples of the occupational groups included in the non-health care worker category were as follows:

Housewife
Chartered Accountant
Secretary
Labourer
Hostess
Warehouse Foreman
Engineer
Teacher
Contractor
Truck Driver
Lawyer
Equipment Technician
Waitress
Farmer
Clerk Typist
Electrician

II HEALTH CARE WORKERS

A health care worker was defined as any adult individual whose occupation entails working with and/or for patients, generally in a hospital setting. The following list comprises the occupations of those individuals who were included for purposes of this investigation in the health care worker category:

Registered Nursing Assistant
Physician/Surgeon
Dentist
Social Worker
Laboratory Technician
Dental Assistant
X-ray Technician
Pharmacist
Speech Therapist
Respiratory Technologist
Psychologist
Operating Room Technician
Physiotherapist

III NURSES

A nurse was defined as any adult individual who has successfully completed an approved nursing education program and the qualifying nurse registration examinations entitling her/him to use the designation "Registered Nurse" and for registration in the professional association.

APPENDIX B

CONSUMER RIGHTS IN HEALTH CARE

I Right to be informed

1--about preventive health care including education on nutrition, birth control, drug use, appropriate exercise

2--about the health care system including the extent of government insurance coverage for services, supplementary insurance plans, the referral system to auxiliary health and social facilities and services in the community

3--about the individual's own diagnosis and specific treatment program including prescribed surgery and medication, options, effects and side effects

4--about the specific costs of procedures, services and professional fees undertaken on behalf of the individual consumer

II Right to be respected as the individual with the major responsibility for his own health care

---right that confidentiality of his health records be maintained

---right to refuse experimentation, undue painful prolongation of his life or participation in teaching programs

---right of adult to refuse treatment, right to die with dignity

III Right to participate in decision making affecting his health

---through consumer representation at each level of government in planning and evaluating the system of health services, the types and qualities of service and the conditions under which health services are delivered

---with the health professionals and personnel involved in his direct health care

IV Right to equal access to health care (health education, prevention, treatment and rehabilitation) regardless of the individual's economic status, sex, age, creed, ethnic origin and location

---right to access to adequately qualified health personnel

---right to a second medical opinion

---right to prompt response in emergencies

(Consumers' Association of Canada, 1974, p. 1)

APPENDIX C

SURVEY OF DISCHARGED HOSPITAL PATIENTS

DIRECTIONS:

The following statements, written in terms of yourself, refer to the nursing care you received during your recent hospital experience.

For each statement, please check the approximate percentage (percentage categories are provided) of nurses for whom the statement appears to be true. It is important that you respond to the statements according to how you actually do feel with regard to your nursing care.

Your responses will remain completely anonymous.

EXAMPLE: For statements 1—10:

	PERCENTAGE				
WHAT PERCENTAGE OF THE NURSES WITH WHOM I CAME IN CONTACT DID:	0-20%	21-40%	41-60%	61-80%	81-100%
1. Not introduce themselves to me?	☐	☐	☐	☑	☐

This response would indicate that between 61 and 80 per cent of the nurses with whom you came in contact did not tell you their names.

	PERCENTAGE				
WHAT PERCENTAGE OF THE NURSES WITH WHOM I CAME IN CONTACT DID:	0-20%	21-40%	41-60%	61-80%	81-100%
1. Not encourage me to ask questions about my care?	☐	☐	☐	☐	☐
2. Not protect my privacy?	☐	☐	☐	☐	☐
3. Not carry out my treatments skillfully?	☐	☐	☐	☐	☐
4. Not discuss how I can take care of myself after leaving the hospital?	☐	☐	☐	☐	☐
5. Not respond to my call for assistance without delay?	☐	☐	☐	☐	☐
6. Not inform me about my rights as a patient?	☐	☐	☐	☐	☐
7. Not meet my needs for personal care?	☐	☐	☐	☐	☐
8. Not teach me how to cope with changes in my daily activities after leaving the hospital?	☐	☐	☐	☐	☐
9. Not address me by my name?	☐	☐	☐	☐	☐
10. Not convey genuine concern for me?	☐	☐	☐	☐	☐

Please continue on back→

EXAMPLE: For statements 11 - 20:

	PERCENTAGE				
	0-20%	21-40%	41-60%	61-80%	81-100%
WHAT PERCENTAGE OF THE NURSES WITH WHOM I CAME IN CONTACT DID:					
1. Treat me as an individual?	☐	☐	☐	☑	☐

This response would indicate that the attitude and behavior of 61-80 per cent of the nurses who cared for you did provide individualized, considerate care.

	PERCENTAGE				
	0-20%	21-40%	41-60%	61-80%	81-100%
WHAT PERCENTAGE OF THE NURSES WITH WHOM I CAME IN CONTACT DID:					
11. Discuss my health needs?	☐	☐	☐	☐	☐
12. Consider my opinion worthwhile?	☐	☐	☐	☐	☐
13. Allow me to make decisions about my health care?	☐	☐	☐	☐	☐
14. Explain the procedure(s) while treating me?	☐	☐	☐	☐	☐
15. Inform me about the progress I was making while I was in the hospital?	☐	☐	☐	☐	☐
16. Show concern about my emotional needs?	☐	☐	☐	☐	☐
17. Provide instructions that I could understand?	☐	☐	☐	☐	☐
18. Treat me as a unique person?	☐	☐	☐	☐	☐
19. Leave the call light in a convenient place?	☐	☐	☐	☐	☐
20. Take the time to chat with me?	☐	☐	☐	☐	☐

ABOUT YOURSELF

Are you a health care worker? ☐ Yes ☐ No

If yes, are you a nurse? ☐ Yes ☐ No

If you would like to make any comments or suggestions, please use the space provided below.

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THANK YOU VERY MUCH FOR YOUR COOPERATION

PLEASE REMEMBER TO ENCLOSE YOUR COMPLETED QUESTIONNAIRE IN THE STAMPED ENVELOPE AND RETURN IT AS SOON AS POSSIBLE

SURVEY OF DISCHARGED HOSPITAL PATIENTS

DIRECTIONS:

The following statements, written in terms of yourself, refer to the nursing care you received during your recent hospital experience.

For each statement, please check the appropriate phrase (phrase categories are provided) that best describes your nursing care. It is important that you respond to the statements according to how you actually do feel with regard to your nursing care.

Your responses will remain completely anonymous.

EXAMPLE: For statements 1 - 10:

	PHRASE				
HOW INCONSIDERATE WERE THE NURSES WITH WHOM I CAME IN CONTACT IN THAT THEY DID:	very inconsiderate	usually inconsiderate	about average consideration	usually considerate	very considerate
1. Not introduce themselves to me?	☐	☑	☐	☐	☐

This response would indicate that you felt nurses were usually inconsiderate by not telling you their names.

	PHRASE				
HOW INCONSIDERATE WERE THE NURSES WITH WHOM I CAME IN CONTACT IN THAT THEY DID:	very inconsiderate	usually inconsiderate	about average consideration	usually considerate	very considerate
1. Not encourage me to ask questions about my care?	☐	☐	☐	☐	☐
2. Not protect my privacy?	☐	☐	☐	☐	☐
3. Not carry out my treatments skillfully?	☐	☐	☐	☐	☐
4. Not discuss how I can take care of myself after leaving the hospital?	☐	☐	☐	☐	☐
5. Not respond to my call for assistance without delay?	☐	☐	☐	☐	☐
6. Not inform me about my rights as a patient?	☐	☐	☐	☐	☐
7. Not meet my needs for personal care?	☐	☐	☐	☐	☐
8. Not teach me how to cope with changes in my daily activities after leaving the hospital?	☐	☐	☐	☐	☐
9. Not address me by my name?	☐	☐	☐	☐	☐
10. Not convey genuine concern for me?	☐	☐	☐	☐	☐

Please continue on back

EXAMPLE: For statements 11 - 20:

	PHRASE				
HOW MUCH EFFORT DID THE NURSES WITH WHOM I CAME IN CONTACT SPEND:	very little effort	little effort	average effort	considerable effort	great effort
1. Treating me as an individual?	☐	☐	☐	☑	☐

This response would indicate that the attitude and behavior of the nurses was such that you felt considerable effort was expended in order to provide individualized care for you.

	PHRASE				
HOW MUCH EFFORT DID THE NURSES WITH WHOM I CAME IN CONTACT SPEND:	very little effort	little effort	average effort	considerable effort	great effort
11. Discussing my health needs?	☐	☐	☐	☐	☐
12. Considering my opinion worthwhile?	☐	☐	☐	☐	☐
13. Allowing me to make decisions about my health care?	☐	☐	☐	☐	☐
14. Explaining the procedure(s) while treating me?	☐	☐	☐	☐	☐
15. Informing me about the progress I was making while I was in the hospital?	☐	☐	☐	☐	☐
16. Showing concern about my emotional needs?	☐	☐	☐	☐	☐
17. Providing instructions that I could understand?	☐	☐	☐	☐	☐
18. Treating me as a unique person?	☐	☐	☐	☐	☐
19. Leaving the call light in a convenient place?	☐	☐	☐	☐	☐
20. Taking the time to chat with me?	☐	☐	☐	☐	☐

ABOUT YOURSELF

Are you a health care worker? ☐ Yes ☐ No

If yes, are you a nurse? ☐ Yes ☐ No

If you would like to make any comments or suggestions, please use the space provided below.

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THANK YOU VERY MUCH FOR YOUR COOPERATION

PLEASE REMEMBER TO ENCLOSE YOUR COMPLETED QUESTIONNAIRE IN THE STAMPED ENVELOPE AND RETURN IT AS SOON AS POSSIBLE

APPENDIX D

THE UNIVERSITY OF ALBERTA

QUAECUMQUE VERA

FACULTY OF NURSING

CLINICAL SCIENCES BUILDING
EDMONTON, CANADA T6G 2G3

Dear

The nursing profession is continually seeking to improve the care that patients receive. As an individual who has recently been in the hospital, you are in an ideal position to offer some valuable suggestions on how nurses can improve the care given to patients. Your opinion about various aspects of the nursing care that you did, or did not, receive would be very much appreciated.

The enclosed questionnaire takes about five minutes to complete.

It is important that you respond to the statements according to how you actually do feel with regard to your nursing care. If the nursing profession is to benefit from your comments in this survey, your honest response to each statement, whether positive or negative, is essential.

No personal identification is required from you on the questionnaire. Your responses will remain completely anonymous and the researcher is required by law not to reveal the names of any of the participants in this survey.

A self-addressed envelope is provided for you to return the completed questionnaire. It would be very much appreciated if you would complete it now and return it as soon as possible.

Thank you very much for your co-operation.

Yours truly,

Karran Thorpe
Faculty of Nursing
University of Alberta

P. S. If you have any questions or concerns regarding this survey, please feel free to call me at 432-2216 or the Faculty of Nursing at 432-6487.

APPENDIX E

TABLE A

FACTOR ANALYSIS--BOTH SCALES

TWO FACTOR VARIMAX ORTHOGONAL SOLUTION

NEGATIVE ITEMS

Item Number	Variable Description		Factor	Factor	
		Communalities	I	II	
1	Not Ask Questions	.332	.559	.137	
2	Not Protect Privacy	.551	.679	-.300	
3	Not "Treat" Skillfully	.532	.697	-.216	
4	Not Discuss Selfcare	.738	.569	.644	
5	Not Respond to Call	.563	.725	-.195	
6	Not Inform About Rights	.219	.375	.280	
7	Not Meet Personal Care	.732	.816	-.258	
8	Not Teach to Cope	.714	.639	.553	
9	Not Address by Name	.366	.604	-.029	
10	Not Convey Genuine Concern	.714	.817	-.218	
	Eigenvalue		4.356	1.106	
	Per Cent of Total Variance		43.56	11.06	54.62

TABLE B
FACTOR ANALYSIS--BOTH SCALES
TWO FACTOR VARIMAX ORTHOGONAL SOLUTION
POSITIVE ITEMS

Item Number	Variable Description		Factor	Factor	
		Communalities	I	II	
11	Discuss Health Needs	.476	.687	.060	
12	Consider Opinion Worthwhile	.877	.826	-.441	
13	Allow to Make Decisions	.583	.729	-.258	
14	Explain Procedures	.467	.644	.230	
15	Inform About Progress	.650	.747	.303	
16	Concern About Emotional Needs	.718	.823	.203	
17	Provide Instructions	.462	.679	.025	
18	Treat as Unique Person	.712	.824	-.184	
19	Leave Call Light Convenient	.311	.556	.037	
20	Take Time to Chat	.641	.794	.103	
	Eigenvalue		5.401	.496	
	Per Cent of Total Variance		54.01	4.96	58.97

TABLE C

FACTOR ANALYSIS--BOTH SCALES

ONE FACTOR SOLUTION--NEGATIVE ITEMS

Item Number	Variable Description	Communalities	Factor I
1	Not Ask Questions	.316	.562
2	Not Protect Privacy	.460	.678
3	Not "Treat" Skillfully	.492	.701
4	Not Discuss Selfcare	.256	.506
5	Not Respond to Call	.535	.731
6	Not Inform About Rights	.135	.367
7	Not Meet Personal Care	.667	.817
8	Not Teach to Cope	.342	.585
9	Not Address by Name	.376	.613
10	Not Convey Genuine Concern	.677	.823
	Eigenvalue		4.254
	Per Cent of Total Variance		42.54

TABLE D

FACTOR ANALYSIS--BOTH SCALES

ONE FACTOR SOLUTION--POSITIVE ITEMS

Item Number	Variable Description		Factor
		Communalities	I
11	Discuss Health Needs	.478	.691
12	Consider Opinion Worthwhile	.629	.793
13	Allow to Make Decisions	.506	.712
14	Explain Procedures	.411	.641
15	Inform About Progress	.544	.737
16	Concern About Emotional Needs	.674	.821
17	Provide Instructions	.468	.684
18	Treat as Unique Person	.676	.822
19	Leave Call Light Convenient	.315	.561
20	Take Time to Chat	.638	.798
	Eigenvalue		5.338
	Per Cent of Total Variance		53.39

TABLE E
FACTOR ANALYSIS--SCALE ONE
TWO FACTOR VARIMAX ORTHOGONAL SOLUTION
NEGATIVE ITEMS

Item Number	Variable Description	Communalities	Factor I	Factor II	
1	Not Ask Questions	.185	.422	.082	
2	Not Protect Privacy	.615	.751	- .228	
3	Not "Treat" Skillfully	.538	.686	- .259	
4	Not Discuss Selfcare	.702	.533	.647	
5	Not Respond to Call	.537	.709	- .185	
6	Not Inform About Rights	.125	.193	.297	
7	Not Meet Personal Care	.753	.821	- .283	
8	Not Teach to Cope	.874	.627	.694	
9	Not Address by Name	.287	.535	.022	
10	Not Convey Genuine Concern	.639	.767	- .223	
	Eigenvalue		3.976	1.278	
	Per Cent of Total Variance		39.76	12.78	52.54

TABLE F
FACTOR ANALYSIS--SCALE ONE
TWO FACTOR VARIMAX ORTHOGONAL SOLUTION
POSITIVE ITEMS

Item Number	Variable Description		Factor	Factor	
		Communalities	I	II	
11	Discuss Health Needs	.549	.653	- .350	
12	Consider Opinion Worthwhile	.648	.799	- .099	
13	Allow to Make Decisions	.523	.722	.042	
14	Explain Procedures	.406	.625	- .125	
15	Inform About Progress	.504	.677	- .214	
16	Concern About Emotional Needs	.768	.868	- .125	
17	Provide Instructions	.569	.694	.296	
18	Treat as Unique Person	.692	.830	.048	
19	Leave Call Light Convenient	.749	.588	.635	
20	Take Time to Chat	.655	.809	- .013	
	Eigenvalue		5.358	.704	
	Per Cent of Total Variance		53.58	7.04	60.62

TABLE G

FACTOR ANALYSIS--SCALE ONE

ONE FACTOR SOLUTION--NEGATIVE ITEMS

Item Number	Variable Description	Communalities	Factor I
1	Not Ask Questions	.181	.426
2	Not Protect Privacy	.580	.762
3	Not "Treat" Skillfully	.478	.692
4	Not Discuss Selfcare	.211	.459
5	Not Respond to Call	.518	.720
6	Not Inform About Rights	.033	.181
7	Not Meet Personal Care	.678	.824
8	Not Teach to Cope	.282	.531
9	Not Address by Name	.295	.543
10	Not Convey Genuine Concern	.605	.778
	Eigenvalue		3.862
	Per Cent of Total Variance		38.62

TABLE H

FACTOR ANALYSIS--SCALE ONE

ONE FACTOR SOLUTION--POSITIVE ITEMS

Item Number	Variable Description	Communalities	Factor I
11	Discuss Health Needs	.412	.642
12	Consider Opinion Worthwhile	.646	.804
13	Allow to Make Decisions	.527	.726
14	Explain Procedures	.393	.627
15	Inform About Progress	.455	.675
16	Concern About Emotional Needs	.757	.870
17	Provide Instructions	.465	.682
18	Treat as Unique Person	.697	.835
19	Leave Call Light Convenient	.292	.541
20	Take Time to Chat	.661	.813
	Eigenvalue		5.306
	Per Cent of Total Variance		53.06

TABLE I

FACTOR ANALYSIS--SCALE TWO
TWO FACTOR VARIMAX ORTHOGONAL SOLUTION
NEGATIVE ITEMS

Item Number	Variable Description	Communalities	Factor I	Factor II	
1	Not Ask Questions	.643	.773	.214	
2	Not Protect Privacy	.467	.605	- .318	
3	Not "Treat" Skillfully	.531	.728	- .030	
4	Not Discuss Selfcare	.715	.658	.532	
5	Not Respond to Call	.574	.721	- .230	
6	Not Inform About Rights	.471	.669	.155	
7	Not Meet Personal Care	.707	.814	- .210	
8	Not Teach to Cope	.570	.699	.285	
9	Not Address by Name	.472	.676	- .122	
10	Not Convey Genuine Concern	.786	.860	- .214	
	Eigenvalue		5.242	.693	
	Per Cent of Total Variance		52.42	6.93	59.35

TABLE J
FACTOR ANALYSIS--SCALE TWO
TWO FACTOR VARIMAX ORTHOGONAL SOLUTION
POSITIVE ITEMS

Item Number	Variable Description	Communalities	Factor I	Factor I	
11	Discuss Health Needs	.601	.759	.155	
12	Consider Opinion Worthwhile	.688	.797	- .230	
13	Allow to Make Decisions	.676	.709	- .417	
14	Explain Procedures	.451	.671	.023	
15	Inform About Progress	.728	.842	.135	
16	Concern About Emotional Needs	.602	.766	- .122	
17	Provide Instructions	.595	.732	.242	
18	Treat as Unique Person	.782	.847	- .255	
19	Leave Call Light Convenient	.566	.628	.415	
20	Take Time to Chat	.625	.779	.134	
	Eigenvalue		5.716	.597	
	Per Cent of Total Variance		57.16	5.97	63.13

TABLE K

FACTOR ANALYSIS--SCALE TWO

ONE FACTOR SOLUTION--NEGATIVE ITEMS

Item Number	Variable Description	Communalities	Factor I
1	Not Ask Questions	.592	.769
2	Not Protect Privacy	.357	.598
3	Not "Treat" Skillfully	.539	.734
4	Not Discuss Selfcare	.385	.621
5	Not Respond to Call	.517	.719
6	Not Inform About Rights	.448	.670
7	Not Meet Personal Care	.660	.813
8	Not Teach to Cope	.476	.690
9	Not Address by Name	.462	.679
10	Not Convey Genuine Concern	.738	.859
	Eigenvalue		5.174
	Per Cent of Total Variance		51.74

TABLE L

FACTOR ANALYSIS--SCALE TWO

ONE FACTOR SOLUTION--POSITIVE ITEMS

Item Number	Variable Description	Communalities	Factor I
11	Discuss Health Needs	.578	.760
12	Consider Opinion Worthwhile	.628	.792
13	Allow to Make Decisions	.473	.688
14	Explain Procedures	.457	.676
15	Inform About Progress	.714	.848
16	Concern About Emotional Needs	.591	.769
17	Provide Instructions	.530	.728
18	Treat as Unique Person	.704	.839
19	Leave Call Light Convenient	.373	.611
20	Take Time to Chat	.609	.781
	Eigenvalue		5.657
	Per Cent of Total Variance		56.58

APPENDIX F

RESPONDENTS' COMMENTS

Of the respondents' comments, the following section was deemed representative of those regarding the format of the scales and various nursing care measures. The comments are reported verbatim with the type of respondent provided in parenthesis following the comment.

Regarding Scales

I consider questions 1-10 of a type that solicits bias. The words "inconsiderate" and "not" create a negative illusion and seem inappropriate. (NHCW)

dif. to work in %'s--why this method. (NHCW)

About the format! *Your first ten questions are highly confusing and perhaps your responses are not as accurate as you hope. Double negatives in the English language are always frowned upon! (NHCW)

Next questionnaire should contain N.A.--non-applicable, in the phrases. Some of the questions did not pertain to me at all. I was in for observation mostly. I think these questionnaires are a good idea. (NHCW)

The questionnaire in my opinion cannot be answered appropriately by most patients. I fear the results of the conclusions drawn from this questionnaire and would not want to mislead what it could be used for. (NHCW)

The first NOT portion of the questionnaire is very awkwardly worded & confusing, therefore the answers may not be the intended ones. (NHCW)

However, I find it difficult to deal with percentages...I do think a bedside audit would be more advantageous. (Nurse)

Please include example for statements 1-10 in your questionnaire. Thank you. (Nurse)

Regarding Nursing Care: General Comments

Many specific instances of dissatisfaction with nursing care and/or personnel were delineated, the most frequently cited complaint being related to the lack of information and/or teaching provided by nursing personnel. Indeed, 23 per cent of the nurses and 31 per cent of the NHCWs voiced dissatisfaction with regard to informational needs. As two nurse respondents explained, "Nurses tend to assume that patients who are nurses themselves do not need the explanation of procedures and tests as do other patients," and "When a nurse is a patient she should be treated as a patient in every way." Respondents also stated dissatisfaction with nursing care on the following areas: little concern shown for emotional needs (NHCWs, HCWs, and nurses), unavailability of or delayed responses to call light (all groups), failure to introduce themselves (HCWs and nurses), and poor communication among the nurses, doctors, and patients (all groups). Despite these omissions of nursing care, all respondent groups made allowances for nursing staff shortages and the busy ward atmosphere.

As an obstetrical patient I came in contact with nurses from 3 different areas: caseroom, postpartum and nursery nurses. The caseroom nurse by her actions reassured my husband & I that things were being "looked after" even when they were at their worst (baby became bradycardic). PP nurses--after the first day most contact with them were for "checks". Little care concerning "emotional needs"--nurses were busy! I was at my most vunerable when the baby was concerned so some conflicting info from the nursery nurses increased my anxiety level quite a bit. The nursery charge nurse visited daily & I relied on her answers & information as with the caseroom nurse, her actions, tone of voice, concern made me feel much reassured. I really felt they CARED!! (Nurse)

The care I received in hospital was average in general by the nurses. However, there was one RNA that did a great deal in helping me with my physical and emotional needs, and with my baby and I appreciated her help greatly. (Nurse)

I realize a hospital can be very busy at times and under staffed but this is not the patient's fault. Even when a patient is there for investigation don't forget they are also a person with needs and feelings. Just because they take care of themselves don't ignore them completely. Just a simple Hi sometimes make the day a little brighter and might make you feel you are a Person Not a Number. (HCW)

If patient is interested in the type of operation they are having, more nurses should explain in full detail about what is going to happen prior to operation and after so patient could be more relaxed. Otherwise treatment etc. is good. (HCW)

Most of the nurses were 100%, but I did notice that there were some who were not genuinely concerned. The dietary person was very impersonal and abrupt. The Lab tetc [sic] (Blood) was rude to me. Over all the feeling was one of an unfeeling atmosphere. (HCW)

1. leave the door to room as you found it.
2. leave the call light in reach.
3. check if tray need preparation if patient was handicapped so they could eat.
4. the medicine staff failed more to introduce themselves! (Nurse)

I was a patient, with a broken ankle, surgery on ankle, then bed rest until ankle became less swollen, five days later cast applied and discharged. A small number of nurses that arrived to work for the AM shift complained of being tired and appeared tired. This was very depressing for me, as I felt I needed extra help due to my inability. I felt uncomfortable asking them for help. (2) The nurses, gave good care the first few days it was excellent, after that they showed less interest almost made me feel guilty for ringing the bell. I was still on bed rest. I tried not to call to [sic] often leaving a used bedpan on my chair for hours. They were kind and I don't mean to be complaining but these where [sic] areas which I feel could improve. Thank you. (Nurse)

After spending one week in the hospital, I found most nurses do their best to keep you comfortable and happy. (NHCW)

Nurses should be more gentle with patients especially shortly after surgery; too forceful when patient was in pain. (NHCW)

Many of the nurses appeared to be either indifferent or hostile. (NHCW)

My hospital stay was very favorable. The care I received was excellent. (Nurse)

I would rate the standard of nursing care as "high". (Nurse)

Rapid change over of nurses did not allow for nurse-patient relationship to develop. I feel I was well taken care of. (HCW)

Being a Physician I feel I probably had more care and understanding than the average patient. (HCW)

Would like to suggest that the nursing (medical) staff take more consideration of all patients as individuals and care to realize that some people are frightened of what's happening to them. The staff knew I was to be alone at home and I would not be able to care for myself--yet they sent me home--too early! (NHCW)

I would just like to say the treatment I recieved [sic] while in the Hospital was excellent and the nurses & staff are to be commended. However, I do feel more attention should be given to how the patients [sic] family, accepts or deals with the illness. (NHCW)

I would like to point out, that the reason for many of my negative answers are mainly due to the fact that the nursing staff is grossly understaffed! I'm sure most nurses would be more considerate and exert more effort if they had the time. They are so busy with so many patients they just don't have the time for real personal care. (HCW)

Information Exchange

I realize this is a very negative response but unfortunately I felt my personal care to be completely lacking in any health teaching & any personal touch. (Nurse)

Being a patient is a very different experience after being a nurse. The small things are important, hospital routine can be very upsetting to a restful environment. Talking within a patient's range can be very upsetting. Expecting a nurse to know everything about everything can prevent her from asking questions about her care, etc. (Nurse)

Nurses tend to assume that patients who are nurses themselves do not need the explanation of procedures and tests as do other patients. They tend to "back-off" & not give the same support as they would other patients. (Nurse)

I felt that my care was well given, but felt because I was a nurse that many things may not have been explained to me. Since I worked in a totally different area I would have preferred still being explained everything instead of "assuming" I knew. I would have very much appreciated being introduced to by my nurse. Very few introduced themselves. (Nurse)

There should be communication about significant factors between Dr's, nurses and patients concerning things like changes in medications, and significant complaints. Also, having had a room next to the nursing station I overheard staff discussing me among other patients. This was confirmed. (Nurse)

I was very frustrated upon being admitted. The nurses talked among themselves and nothing was explained to me as to what they were going to do to me while my stay in hospital. I was very very disappointed in the staff. (Item 19, re call light) I had to find it myself. I found it usually behind my bed. (HCW)

During my stay in the hospital, only one nurse introduced herself to me, and she was a student nurse. The student nurses seemed to be the only ones who took the time to explain things to me and ask questions. Needless to say I wasn't greatly impressed with the attitude of the R.N.'s who seemed to have better things to do elsewhere. (HCW)

As a nurse I introduce myself to patients. However no nurse introduced herself while I was a patient. (Nurse)